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11	SUPERIOR COURT OF TH	E STATE OF CALIFORNIA
12	COUNTY OF	FRIVERSIDE
13		Case No.: CIV208568
14	Coordination Proceeding Special Title (Cal. Rules of Court, Rule 3.550)	JCCP NO. 5265 CIV 208568 (Lead Case No.)
15	MOJAVE BASIN WATER CASES	Dept. 1, Riverside County Superior Court,
16		Hon. Harold W. Hopp, Judge Presiding
17	CITY OF BARSTOW,	DECLARATION OF AARON JOHNSON IN SUPPORT OF THE
18	Plaintiff,	CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE'S RESPONSE
19	v.	TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION
20		ALLOWANCE FOR THE 2024-2025 WATER YEAR
21	CITY OF ADELANTO, ET AL,	Date: June 4, 2024
22	Defendants.	Time: 8:30 a.m. Dept.: 1
23		Judge: Honorable Harold W. Hopp
24		Assigned for All Purposes to Dept. 1,
25		Honorable Harold W. Hopp, Judge Presiding by Assignment
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1	DECLARATION OF AARON JOHNSON
2	I, AARON JOHNSON, declare as follows:
3	1. I am presently employed with the California Department of Fish and Wildlife
4	("Department") as a Senior Environmental Scientist and have been employed by the Department
5	for approximately nine years. I have a bachelor's degree in environmental studies from the
6	University of California, Santa Cruz. I have worked in various capacities in the environmental
7	sciences, land conservation, and land management for the past 20 years. I am currently the
8	supervisor for the northern Lands Program covering Mono and Inyo counties, and portions of San
9	Bernardino County for the Inland Deserts Region. (A copy of my current resume is attached
10	hereto as Attachment A.)
11	2. In my capacity as Senior Environmental Scientist, my responsibilities include
12	preparing, reviewing, and commenting on reports, documents, and data, both scientific and non-
13	scientific; preparing correspondence; managing staff, budgets, and contracts; making
14	recommendations as they relate to public trust resources on behalf of the Department; and
15	representing the Department at meetings of various boards and commissions, including the
16	Mojave River Basin Watermaster Board ("Watermaster Board").
17	3. I have been working on natural resource issues within the Mojave River watershed for
18	approximately 2.5 years, beginning in 2021. In my current Department capacity, I am involved in
19	the management of Department-owned lands in the Mojave River Basin Adjudication, including
20	Camp Cady Wildlife Area ("Camp Cady") in the Baja Subarea ("Baja") and Mojave Narrows
21	Regional Park in the Alto Subarea ("Alto"). The Department also owns and is responsible for
22	managing the Mojave River Fish Hatchery in Alto.
23	4. I am providing this declaration in support of the Department's Response to the
24	Watermaster's Motion to Adjust Free Production Allowance for Water Year 2024-2025 ("2024-
25	2025 FPA Motion") and Declaration of Robert C. Wagner in Support Thereof ("2024 Wagner
26	Declaration").
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5. The following facts and opinions are true and correct and if called to testify, I could
 and would testify completely thereto. I make this declaration based on personal knowledge and on
 my expert opinion as a Senior Environmental Scientist at the Department.

6. The Department is trustee for the state's fish and wildlife resources. (Fish & G. Code,
§ 711.7.) The Department has jurisdiction over the conservation, protection, and management of
fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of
those species. (Fish & G. Code, § 1802.) In addition, the Department is an ex-officio member of
the Alto and Baja Subarea Advisory Committees and is a party to the judgment in *City of Barstow, et al., v. City of Adelanto, et al.*, Riverside County Superior Court Case No. 208568
("Judgment").

11 7. On February 20, 2024, in advance of the February 28, 2024, Mojave River Basin Area 12 Watermaster ("Watermaster") Board meeting, I submitted a letter on behalf of the Department 13 regarding the recently disclosed new methods by the Watermaster Engineer Robert C. Wagner 14 ("Watermaster Engineer") to calculate production safe yield ("PSY") and based on the PSY, the 15 proposed free production allowance ("FPA") for Water Year ("WY") 2024-2025, which in two 16 subareas would increase for the first time since the implementation of the Judgment 17 ("Department's February 2024 letter"). (A copy of the Department's February 2024 letter is 18 attached hereto as Attachment B.) I summarized these comments in person at the Watermaster 19 Board meeting on February 28, 2024.

20 8. Department staff attended the March 14, 2024, public workshop on the PSY update
21 and proposed 2024-2025 FPA in Alto and Centro.

9. On March 19, 2024, I submitted a second letter on behalf of the Department. In that
letter, I reiterated the comments in the Department's February 2024 letter and clarified the
Department's positions on the PSY calculations and the WY 2024-2025 FPA recommendations.
("Department's March 2024 letter"). (A copy of the Department's March 2024 letter is attached
hereto as Attachment C.) The clarifications were in response to the additional information the
Watermaster Engineer and staff provided the Department by letter in March 2024 in advance of
the Watermaster Board's March 27, 2024, public hearing to receive comments and adopt the

proposed FPA recommendation for 2024-2025. I summarized these comments in person at the
 March 27, 2024, public hearing.

10. In my opinion and on behalf of the Department, I make the following recommendations and conclusions:

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5 • The Department opposes the Watermaster's recommendations to increase the FPA in Alto from 50.4% to 53.3% and in Centro from 55% to 60% 6 7 for the first time since entry of the Judgment in 1996. In Alto and Centro, the 8 recommendation to increase production based on the use of the new PSY 9 calculations and associated MWA Upper Mojave River Basin Integrated Surface 10 Water/Groundwater Model¹ ("Upper Mojave River Basin Model") are premature 11 and need to be compared to real world monitoring well and stream gage data over modeled outcomes.² FPA should not be increased to 53.3% in Alto and to 60% in 12 13 Centro because it would prematurely reverse the ramp down of pumping that 14 occurred just this past water year in 2023. Instead, the Watermaster must take a 15 more cautions "wait and see" approach and continue to evaluate the response to 16 changes in water management, such as reductions in pumping over time (i.e., 17 ramp down), imported artificial recharge, and storm flows, in the existing network 18 of groundwater monitoring wells and surface water gauges, and weighting such 19 observed real-world data over modeled outcomes. The Watermaster's 20 recommendation to rampdown in Alto to 50% in 2023 also included a 21 recommendation to keep FPA the same for five years. While the Court deferred 22 the recommendation to hold FPA for five years, the Court agreed that the 23 condition of Alto required a rampdown noting the reductions in Alto groundwater 24 levels over the course of the Judgment and in the very recent past. 25

 ¹ Wood Environment & Infrastructure Solutions, Inc. October 29, 2021. Project Completion Report – Integrated Surface Water/Groundwater Model, Upper Mojave River Basin.
 ² The new calculations and groundwater model were first introduced at the January 24, 2024, Watermaster Board meeting and shared at the Watermaster Board's subsequent February 28, 2024, meeting. As stated in the Declaration of Kit Custis in Support of the Department of Fish and Wildlife's Response to Watermaster's Motion to Adjust Free Production Allowance for the 2024-2025 Water Year ("2024 Custis Declaration"), surface flows from Centro to Baja have been reduced by more than 8,900 acre-feet per year from their historical levels and the levels at the time the Judgment was entered. (2024 Custis Declaration, pp. 6, 19.) An increase in PSY and FPA for Alto and Centro, at a time when the surface flows have been reduced to Baja due to the overproduction in Alto and Centro, would allow these subareas to produce additional water at Baja's expense.

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10 • In Baja, the Department agrees with the Watermaster's conclusions that 11 pursuant to the terms of the Judgment and based on the proposed PSY, further 12 ramp down in Baja is not prescribed for WY 2024-2025, and that it is appropriate 13 to again set FPA at 20.5% of base annual production ("BAP"), as recommended 14 by the Watermaster and supported by the Department for WY 2023-2024. This is 15 because in Baja the FPA has been reduced by almost 80% since entry of the 16 Judgment, far more than the other subareas, while at the same time, as stated 17 above, Baja has received significantly less inflow from Centro, which the 18 Watermaster must address to restore the groundwater levels in Baja, taking into 19 account the water needs of public trust resources.

In Baja, the Watermaster Engineer calculated the PSY for Baja in
 Appendix E, Table 2 in the February 28, 2024, "Production Safe Yield and
 Consumptive Use Update"³ ("2024 PSY Update"). The Department objects to the
 significant proposed decrease in the water balance allocation of consumptive
 water use by phreatophytes or groundwater dependent riparian vegetation⁴
 ("riparian vegetation") in Baja from 2,000 acre-feet down to 984 acre-feet. Per

³ Mojave Water Agency Watermaster, Production Safe Yield & Consumptive Use Update with Appendices A-G (February 28, 2024) prepared by Wagner & Bonsignore, Engineers, 107 pages, included in 2024-2025 FPA Motion, Exhibit C5, pdf pp. 196-303.

⁴ I use "groundwater dependent riparian vegetation" as interchangeable with "phreatophytes" used in Table C-1 in Exhibit C in the Judgment.

1 Exhibit H in the Judgment, attached hereto as Attachment D, the Physical 2 Solution was intended to consider the water needs of public trust resources, 3 including riparian vegetation. In reducing the allocation of consumptive water use 4 by riparian vegetation in the water balance from the higher value of 2,000 acre-5 feet established by the U.S. Geological Survey ("USGS") in 1996, the 6 Watermaster incentivizes the loss of riparian vegetation resulting from 7 groundwater depletion and the lowering of the groundwater table. Further, the 8 Watermaster Engineer's calculation only evaluated vegetation in the vicinity of 9 Camp Cady when the PSY calculation in Exhibit C of the Judgment (attached 10 hereto as Attachment E) should represent water use by riparian vegetation across 11 the entire subarea. 12 11. The Department believes that the implementation of the Physical Solution set forth in 13 the Judgment by the Watermaster has resulted in significant improvements in groundwater 14 management in the Mojave River Basin. The Department also acknowledges that there have been 15 substantial advances in the tools and available information to monitor and model groundwater 16 systems in the past 30 years and supports efforts to improve our understanding of the Mojave 17 River system and associated groundwater basin. However, the Department opposes the 18 Watermaster's recommendation in Alto and Centro because the Department believes it is 19 premature to increase pumping in these subareas at this time, reversing decades of carefully 20 considered water management improvements during the ramp down, without adequate monitoring 21 data to support the increase and its potential impact downstream. The Department is concerned 22 that increasing production in these areas may be contrary to the protection of public trust 23 resources by lowering the groundwater table below a level necessary to maintain healthy riparian 24 vegetation communities along the Mojave River. 25 12. The following is a description of the actions previously taken in compliance with the 26 Judgment: 27 • In 2023, the Watermaster recommended that PSY in Alto be reduced to 28 50% of BAP. The Watermaster further recommended that FPA be held at 50% for

1 5 years in Alto. In Centro, the Watermaster concluded that continued ramp down was warranted and recommended that FPA be set at 55% of BAP. In Baja, the 2 3 Watermaster noted that FPA was very close to FPA and did not recommend 4 further ramp-down (2023-2024 FPA Motion). 5 • The Department submitted comments to the Watermaster on March 20, 2023, generally in support of these recommendations, but noting the need to 6 7 evaluate FPA relative to PSY on an annual basis per the Judgment. In the May 1, 8 2023, declaration in support of the motion to adjust FPA for WY 2023-2024 9 ("Watermaster Engineer's May 2023 Declaration"), the Watermaster Engineer 10 included additional discussion about the required PSY update and new 11 groundwater model for the Upper Mojave River Basin, noting that the model 12 supported an FPA of 50% and concluding, "While the reevaluation of PSY may 13 result in a different value than proposed herein, it is my recommendation that FPA 14 in Alto remain at 50% for the next five water years." (Watermaster Engineer's 15 May 2023 Declaration, p. 6.) Additionally, regarding the recommended ramp 16 down in Centro, the Watermaster Engineer in the same declaration noted, "We 17 note that it is unlikely that PSY will increase for the Centro subarea upon 18 reevaluation. The primary reason is that the long-term average water supply 19 (1931-1990) is already included in the PSY estimate. It is not expected that the inflow to Centro on an average basis will increase." (Ibid.) These comments are 20 21 consistent with the Department's opposition to increasing the FPA in Alto and 22 Centro. 23 13. In the Court's June 9, 2023, "Ruling on the Watermaster's Annual Motion to Adjust 24 Free Production Allowance for Water Year 2023-2024: Order to the Watermaster" ("June 9, 25 2023, Order"), the Court ordered that FPA be set for the various subareas as recommended by the 26 Watermaster, except as to Alto, where the recommendation was adopted in part. The Court noted 27 that "the PSY in Alto is clearly incorrect" since the subarea had experienced depletion even 28 though FPA was only slightly higher than PSY. (June 9, 2023, Order, p. 2.) Acknowledging that

the Watermaster Engineer's PSY re-evaluation was not yet final, the Court elected to reduce FPA
by 4.4% rather than the full 5% proposed, and set FPA at 50.4% of BAP. The Court noted also
that the request to hold Alto at 50% for five years would be evaluated next year in 2024, being the
first year after the initial recommendation. (June 9, 2023, Order, p. 4.)

- 5 14. In a December 27, 2023, status report to the Court "Regarding Production Safe Yield 6 and Free Production Allowance Calculations," the Watermaster first indicated its intentions to 7 adopt the Mojave Water Agency's ("MWA") new groundwater model and use it in its 8 calculations of PSY in the upper Mojave River Basin and increase PSY in Alto and Centro based 9 on the model outputs. These recommendations were confirmed at the Watermaster Board's 10 January 24, 2024, regular meeting in a presentation given by the Watermaster Engineer. On 11 January 31, 2024, the Department filed a response with the Court to the December status report 12 opposing the increase in PSY in Alto and Centro.
- 15. The Watermaster Board in its regular meeting on February 28, 2024, and public 13 14 hearing on March 27, 2024, considered the annual FPA recommendations from the Watermaster 15 Engineer, and included two memoranda supporting these agenda items. At the February 28, 2024, 16 meeting, the Watermaster Engineer also introduced a report titled "Production Safe Yield & 17 Consumptive Use Update." For the first time since the entry of the Judgment, the memoranda and 18 report recommend increasing PSY in Alto and Centro, as well as the FPA, to 53.3% (+2.9% 19 compared to WY 2023-2024) and 60% (+5% compared to WY 2023-2024) of BAP, respectively. 20 The Watermaster Engineer also recommended holding FPA in Baja and Oeste at 20.5% and 50% 21 of BAP, respectively, and ramping down Este to 50% of BAP (-5% compared to WY 2023-2024). 22 The Watermaster Board approved all the Watermaster Engineer's recommendations. 23 16. The Watermaster's Thirtieth Annual Report includes the FPA recommendations for 24 WY 2024-2025, as well as a discussion of subarea water levels in Chapter 3 of the report and 25 presents selected hydrographs from monitoring wells in each of the subareas. The discussion of 26 the subarea water levels observed in WY 2023-2024 provides support for the Department's
- 27 opposition to the current FPA recommendations submitted to the Court. In the water level
- 28 discussion for Alto, the Watermaster states, "We note that variability showing lower lows and

1 lower highs is an indication of extractions exceeding recharge over time. Water levels in the 2 western portion of Alto in the regional aquifer exhibit declines consistent with locally heavy 3 pumping and limited local recharge.... Continued pumping in depleted areas of the regional 4 system may result in long-term local negative impacts such as declining yields and water quality 5 problems. Water levels in near river wells, particularly in the south part of Alto, experienced a 6 trend of decline for 7 years consistent with limited recharge due to drier than average 7 conditions.... Continuation of dry conditions will result in water level declines." (Watermaster's 8 Thirtieth Annual Report, pp. 27-28.)

9 17. As this discussion in the report indicates, water levels in Alto still appear to be
influenced by pumping and some wells do not indicate the levels of stability that would warrant
increased production at this time. In Centro, the report describes general stability in groundwater
wells with declines in dry years and recovery in wet years and explains that wells near Hodge and
Lenwood roads demonstrate the effects of pumping and limited recharge (i.e., groundwater levels
have declined) over the last decade, but notes the positive response to recent imported water and
natural recharge events.

16 18. Considering the Watermaster's assessment of Centro in 2023 in support of the 5%
17 ramp down, and the Department's review of the Centro hydrographs,⁵ one year of apparent
18 recovery does not itself indicate groundwater stability that would warrant an increase in FPA for
19 the subarea.

19. For Baja, the Watermaster observes, "There is indication that in some wells the
decline has stopped or is reversing (increasing)" in response to reduced pumping in the subarea.
(Watermaster's Thirtieth Annual Report, p. 28.) The Department agrees that the reductions in
pumping and apparent leveling off of groundwater levels in some wells are positive developments
for Baja.

25 20. The Department takes interest in the recent discussions regarding PSY in Centro
26 raised in the February 27, 2024, letter by the Golden State Water Company to the Watermaster

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⁵ 2024 Custis Declaration, p. 25.

1	and the February 23, 2024, technical report by aquilogic attached to the letter; ⁶ the subsequent
2	presentation by aquilogic on April 4, 2024; the Watermaster Engineer's April 12, 2024,
3	memorandum in response to Golden State's letter; and the Watermaster Engineer's comments on
4	this subject in his declaration in support of the 2024-2025 FPA Motion. The Department is
5	concerned that the Watermaster Engineer describes the decline of water levels and water quality
6	in Centro identified by Golden State as being attributed to "concentrated pumping in small,
7	segmented aquifers along the river" (2024 Wagner Declaration, p. 4) without discussing the
8	potential downstream impacts of such concentrated pumping. The Department is concerned that
9	these pumping impacts may have negative impacts on public trust resources located there, and on
10	the flow of water to the lower Mojave River Basin including Baja and Camp Cady. The
11	Department supports the Watermaster's plans to expand updated groundwater modeling to
12	include Centro (and Baja) to better understand how water management in each of the subareas
13	impact the entire basin, and particularly the lower Mojave River.
14	21. As noted above, the Department opposes the increase in PSY and FPA in Alto and
15	Centro for WY 2024-2025 based on the new PSY calculation method and updated Upper Mojave
16	River Basin Model because, among other factors, it is premature and contrary to previous
17	statements made by the Watermaster as recently as 2023.
18	22. To better understand the new PSY calculations, the new groundwater model and
19	underlying assumptions, and other matters, Department hydrogeologist Kit Custis and I met with
20	the Watermaster Engineer and staff on two occasions, March 11 and April 17, 2024, and
21	exchanged written correspondence. (2024-2025 FPA Motion, pp. 436-439.) Department staff also
22	attended the March 14, 2024, workshop on the PSY update and groundwater model for Alto and
23	Centro. Finally, I have reviewed the 2024 PSY Update and supporting materials and documents
24	further describing the Upper Mojave River Basin Model.
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27	⁶ Hastings, Stephanie. Letter by Golden State Water Company to Watermaster Board of Directors, titled "Agenda Item 7 – Comments on Watermaster's Production Safe Yield Update,"
	dated February 27, 2024, and attached technical memorandum by aquilogic, titled "Progress

dated February 27, 2024, and attached technical memorandum by aquilogic, titled "Progress
 Report and Mojave Basin Transition Zone Water Budget," dated February 23, 2024.

DECLARATION OF AARON JOHNSON ISO CDFW'S RESPONSE TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION ALLOWANCE FOR THE 2024-2025 WATER YEAR (Case No. CIV208568)

1 23. The Department strongly believes that developing a new conceptual groundwater 2 model for the entire Basin, as well as reviewing variables in the PSY calculations in light of new 3 information, has value to inform how changing environmental conditions and management 4 actions may impact the system. However, based on the Watermaster's own statements in support 5 of the 2023 FPA motion and in the Watermaster's Thirtieth Annual Report, as well as the 6 Department's review of monitoring well data (2024 Custis Declaration, pp. 5-9, 13-16, 17, Att. 7 3), the Department recommends holding PSY and FPA in Alto and Centro and allowing for 8 continued monitoring of the response to the ramp down, natural recharge, and imported water in 9 the network of wells and surface water gages across all of the Mojave River Basin subareas. In 10 addition, the Department requests the Watermaster to expand the groundwater modeling effort 11 beyond Alto across the entire basin model domain used by USGS, and to investigate the causes of 12 the decreased recharge to Baja, and possible remedies, before any subareas are permitted to 13 increase production. 14 24. Figure H-1 in Exhibit H in the Judgment ("Figure H-1") identified and mapped key 15 areas of riparian habitat to be protected, and established science-based maximum groundwater 16 level criteria at these sites as needed to support healthy riparian vegetation for these areas. As 17 noted in the Department's 2004 Habitat Water Supply Management Plan for the Adjudicated Area of the Mojave River Basin⁷ ("CDFW 2004 Habitat Water Supply Plan"), the Figure H-1 18 19 habitat areas were selected not because they represented the full extent of riparian vegetation 20 along the Mojave River, but because they existed in reasonable condition at the time the 21 Judgment was being developed that they might be maintained or restored under improved 22 groundwater management. (CDFW 2004 Habitat Water Supply Plan at p. 2.) 23 25. To ensure that these remnant groundwater dependent habitat areas were protected, 24 specific groundwater monitoring sites and maximum groundwater level criteria were established 25 in Table H-2 in Exhibit H in the Judgment ("Table H-2"), referred to as the "Riparian Habitat 26 ⁷ California Department of Fish and Wildlife. July 2004. <u>Habitat Water Supply</u> 27 Management Plan for the Adjudicated Area of the Mojave River Basin, San Bernardino County, California. This document is available at www.mojavewater.org/basin-28 management/watermaster/reports.

1	Monitoring Wells." The purpose of these monitoring sites and water table standards are made
2	clear in the Judgment: "[T]he Physical Solution must be implemented to seek to achieve water
3	table standards set for in Table H-2 which were proposed by [CDFW] as being necessary to
4	maintain and [conserve] the riparian resources in the areas shown on Figure H-1." (Judgment,
5	Exhibit H, p. H-1.) Exhibit H goes on to provide the mechanism by which the status of these
6	trigger wells should be evaluated by the Watermaster when making FPA recommendations
7	stating, "In considering whether to increase or decrease the Free Production Allowance in a
8	Subarea, Watermaster shall, among other factors, take into consideration for the areas shown on
9	Figure H-1 the Consumptive Use of water by riparian vegetation, the protection of public trust
10	resources, including the species listed in Table H-1 and the riparian habitat areas shown on Figure
11	H-1, and whether an increase would be detrimental to the protection of public trust resources."
12	(Judgment, Exhibit H, p. H-2.)
13	26. As illustrated in hydrographs Watermaster staff provided the Department on June 21,
14	2023 (attached to 2024 Custis Declaration as Att. 8), and those included in the Watermaster's
15	Thirtieth Annual Report, the water table depth standards in Table H-2 for the conservation of the
16	riparian vegetation are not currently being met, and have not been met for significant periods of
17	time in recent history, in multiple Riparian Habitat Monitoring Wells.
18	27. At Camp Cady in Baja, in Riparian Habitat Monitoring Wells H3-1 and H3-2, depth
19	to groundwater has been significantly lower than the maximum identified in Table H-2 during
20	most years since the entry of the Judgment (2024 Custis Declaration, pp. 5, 6, 10, 11, 23, Att. 7,
21	8) and significant losses of riparian habitat in the Figure H-1 area have occurred. The Table H-2
22	groundwater depth criteria are also not being met in the H1-1 well in Alto near the upper
23	Transition Zone below the Lower Narrows and above the Victor Valley Wastewater Reclamation
24	Authority's water treatment plant and associated discharges at Shay Road. (2024 Custis
25	Declaration, pp. 5, 13, 17.) Also, within Alto, at the H1-2 well in the vicinity of the Department-
26	owned Mojave Narrows Regional Park and the riparian forest habitat located there, the
27	hydrograph indicates numerous years below the maximum depth prior to recent recharge
28	associated with the significant winter stormflows beginning in December 2022. (2024 Custis 12
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Declaration, pp. 5, 9, 13, 1-16, Att. 3.) The Department has noted discrepancies in the "new" H12 well measurements since the original well was destroyed in early 2005 during a winter flood
event and replaced outside of the active channel in 2007; discussed these issues with the
Watermaster Engineer and staff (2024-2025 FPA Motion, p. 433); and reviewed the supporting
materials provided by the Watermaster Engineer and staff including the March 24, 2010,
memorandum by the Watermaster Engineer and related land surveys (2024-2025 FPA Motion,
pp. 436-439).

8 28. The Watermaster Engineer has proposed further evaluation of well H1-2, which the 9 Department agrees is necessary for accurate interpretation of the water level criteria. However, 10 based on the information Watermaster staff provided the Department, regardless of the specific 11 base elevation of the river channel that is used to measure the maximum water level below 12 ground surface near the well, the readings at the H1-2 well site have consistently exceeded the 13 maximum depth to water criteria during the last decade. (See 2024 Custis Declaration, pp. 5, 9, 14 13, 1-16, Att. 3.) The Department believes that the Riparian Habitat Monitoring Wells should be 15 considered by the Watermaster in the current FPA recommendation for Alto. Given the 16 importance of the Riparian Habitat Monitoring Wells in the Judgment, the Department has also 17 requested the Watermaster identify the hydrographs more clearly for these wells in future Annual 18 Reports along with the minimum water-table standards for each. Additionally, it would be helpful 19 to include the Watermaster's interpretation of the Exhibit H-2 well hydrographs in the Annual 20 Report.

21 29. As noted above, the Department agrees with the Watermaster Engineer's
22 recommendation that FPA be held at 20.5% of BAP in Baja, based on the significant recent
23 reductions in pumping and the proposed PSY calculations provided in the 2024 PSY Update,
24 Appendix E, Table 2.

30. In some portions of Baja, particularly at Camp Cady located below the Calico fault,
the evidence of stabilizing groundwater levels or recovery as observed in other portions of the
subarea is delayed, or not yet observed, and the groundwater table remains below that required to
support healthy riparian vegetation. The Watermaster Engineer has based the proposed PSY and

1 FPA recommendations for Baja on the analysis of the water level trends in some wells and not the 2 traditional PSY calculation method described in Table C-1 in Exhibit C of the Judgment (Table 3 C-1), and states that the two PSY calculations included in the 2024 PSY Update provide "course 4 crosscheck," rather than the basis for this recommendation. These hydrological inventories are 5 completed for each subarea based on Table C-1 and generally referred to in Watermaster's 6 Annual Reports and memoranda as "Table 5-1". While the Department agrees with the resulting 7 FPA recommendation for Baja presented in the 2024 PSY Update, the Department finds this a 8 departure from the standard initial practice of evaluating PSY and determining FPA and believes 9 it is important to have a functioning water balance calculation for each subarea consistent with 10 paragraph A and Table C-1 in Exhibit C in the Judgment. The Department believes this practice is 11 consistent with the requirement in paragraph 24(0) in the Judgment regarding FPA, which states, 12 "In making its recommendation, Watermaster shall be guided by the factors set forth in Exhibit 'C'." 13 14 31. The Department agrees with the Watermaster's recommendations for Baja and opposes the recommendations for Alto and Centro for the following reasons. The PSY and FPA

15 16 have been reduced in Baja by up to 80% from their highs at the time of entry of the Judgment. 17 This is far more than any of the other subareas. As Mr. Custis notes in his declaration, the surface 18 water flows from Centro to Baja have been reduced by more than 8,900 acre-feet per year from 19 their historical values at the time the Judgment was entered. (Custis Declaration, pp. 6, 19.) As 20 illustrated in Table 2 in Appendix E in the 2024 PSY Update for Baja, the Watermaster Engineer 21 has recognized that during the past 20 years, average gaged surface water inflow to Baja has 22 decreased from 17,358 acre-feet to just 7,500 acre-feet. The Department agrees that a significant 23 decrease in inflow has occurred in Baja as shown in Attachment 5 of Mr. Custis's declaration. 24 (Custis Declaration, Attachment 5.) For the groundwater levels in Baja to fully stabilize and in 25 fact return close to the levels required for the riparian vegetation and public trust resources to 26 reach a healthy state, the upper subareas, including Alto and Centro, need to improve storage and 27 once again provide Baja with the surface flows it requires. To increase PSY and FPA in Alto and 28 Centro at the expense of Baja will not allow the riparian vegetation and public trust resources to

return to a healthy state. Therefore, Alto and Centro should not be ramped up and Baja should not
 be further ramped down at this time.

3 32. The Department also objects to the significant decrease in allocation of water to 4 riparian vegetation in the reference PSY calculation for Baja provided in Table 2 in Appendix E 5 in the 2024 PSY Update. The 2,000 acre-foot value was a result of a thorough investigation by 6 Gregory C. Lines and Thomas W. Bilhorn their report, "Riparian Vegetation and Its Water Use 7 During 1995 Along the Mojave River, Southern California," published by the USGS in 1996.⁸ 8 This study and more recent mapping done for the Department by Menke et al. in their "California 9 Vegetation Map in Support of the Desert Renewable Energy Conservation Plan (2014-2016 Additions)"⁹ indicate the long-term lowering of the groundwater table in Baja, which persists 10 11 today, has negatively impacted riparian vegetation along the Mojave River that warrants further 12 investigation.

33. The Department believes that a reduction in groundwater allocation to riparian
vegetation in the PSY calculation is not consistent with the protection of public trust resources
within the Physical Solution and would effectively incentivize and reward the loss of riparian
habitat resulting from the groundwater depletion that has occurred since 1996. There should not
be any additional water available for production due to the unfortunate destruction of riparian
vegetation, especially when the Judgment requires such habitat be protected.

19 34. In addition, the amount of water dedicated to riparian vegetation, like the other
20 elements in the Table C-1 PSY calculation, should be representative of an appropriate base
21 period. The Department believes that the 1996 report by Lines and Bilhorn provides the correct
22 benchmark.

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- ⁸ Lines, G. and Bilhorn, T. 1996. <u>Riparian Vegetation and Its Water Use During 1995</u>
 <u>Along the Mojave River, Southern California</u>. *Water-Resources Investigations Report 96-4241*.
 U.S. Geological Survey. The report is available at: <u>http://www.mojavewater.org/data-maps/document-library/</u>.
- ⁹ Menke, J., E. Reyes, A. Hepburn, D. Johnson, and J. Reyes. 2016. California Vegetation Map in Support of the Desert Renewable Energy Conservation Plan (2014-2016 Additions), prepared for the California Department of Fish and Wildlife Renewable Energy Program and the California Energy Commission by Aerial Information Systems, Inc.
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1 35. For calculation of the water balance and PSY, all the riparian vegetation in each of 2 the subareas should be included. The new analysis of water use by riparian vegetation performed 3 by the Watermaster Engineer to arrive at the 984 acre-foot value using the OpenET platform 4 evaluated water use only within the riparian habitat area in the vicinity of Camp Cady¹⁰ (2024-5 2024 FPA Motion, Exhibit D, p. 435), as mapped in Figure H-1. However, the prior studies and 6 the PSY calculation method detailed in the Judgment indicate that the consumptive uses included 7 in the subarea PSY calculations should be for the entire subarea. Moreover, preliminary 8 evaluation of riparian vegetation in Baja by the Department based on the vegetation mapping 9 completed by Menke et al. in 2016 mentioned above, suggests that the Figure H-1 area at Camp 10 Cady used in Watermaster's calculation represents approximately 30% of the total extent of 11 riparian vegetation in Baja. Therefore, the water use value for riparian vegetation across the entire 12 subarea using the Watermaster Engineer's proposed new method suggests it is significantly 13 higher.

36. Despite the implementation of the Physical Solution in the Judgment, as the result of
decades of overdraft, altered patterns of groundwater recharge, and infrequent major winter storm
flows reaching the lower portions of the Mojave River Basin, groundwater levels remain, or have
recently been measured, at depths below ground that are insufficient to support healthy stands of
groundwater dependent vegetation, establishment of new younger age classes of riparian
vegetation species, or re-establishment of native vegetation in areas impacted by disturbances
such as flood and wildfire, in some areas.

37. Based on my knowledge of the Mojave River system, the declining water levels at
Camp Cady, and the importance of riparian habitat to wildlife species, stabilizing and recovering
groundwater levels to achieve the water table standards set forth in Table H-2 is important and
necessary for the protection of public trust resources. The Mojave River and associated habitats
are critical to the survival of numerous plant and wildlife species in the Mojave Desert where
such habitats are increasingly limited as the result of altered hydrology, climate change, wildfire,
the spread of invasive species, and other factors. Table H-1 lists the 30 special status species

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¹⁰ See 2024 PSY Update, Appendix E, Figure 2, p. 3.

known to have occurred in the adjudicated area in 1996. Since then, at least two other special
 status species have been identified, including least Bell's vireo (*Vireo bellii pusillus*) and
 southwestern willow flycatcher (*Empidonax traillii*). Numerous common wildlife species rely on
 Mojave River and its associated habitats.

5 38. For the convenience of the Court and to provide a history of the Department
6 properties within the adjudication, I am including paragraphs 39 to 53 below as part of my
7 declaration.

8 39. Detailed mapping of vegetation along the Mojave River was completed by USGS in 9 1995 for the purposes of characterizing the extent of vegetation communities along the Mojave 10 River and quantifying water use by groundwater dependent vegetation.¹¹ In 2016, a vegetation 11 map for the Mojave Desert including the Baja subarea, was completed on behalf of the 12 Department's Vegetation Classification and Mapping Program in association with the Desert Renewable Energy Plan by Menke et al.¹² This updated mapping was completed to the vegetation 13 14 mapping standard for the state as described in Fish and Game Code section 1940 and complies 15 with the National Vegetation Classification System. The mapping was based on 2014 aerial 16 imagery and the classification system can generally be compared to the work by Lines and 17 Bilhorn nearly 20 years earlier in 1996.¹³ 18 40. In 1995, USGS mapped 2,790 acres of riparian habitat in Baja, and in 2014 Menke et 19 al. mapped approximately 2,669 acres containing the same suite of species. Most notably, the 20 acreage of stands of Fremont's cottonwood trees (Populus fremontii), often mixed with willows 21 (Salix spp.), which represent the key components of desert riparian forest in the Mojave Desert, 22 was reduced by roughly 70% in Baja. Mesquite (*Prosopis glandulosa*) acreage increased slightly, 23 possibly due to differences in classification methods, and invasive salt cedar (*Tamarix spp.*) decreased by approximately 120 acres, likely due to control activities.¹⁴ Menke et al. 2016 24 25 observed that many of the riparian communities were in poor condition, dying, or dead in 2014.¹⁵ 26 ¹¹ Lines, G. and Bilhorn, T. 1996, n. 8, *supra*. ¹² Menke, J., E. Reyes, A. Hepburn, D. Johnson, and J. Reyes. 2016, n. 9, *supra*. 27 ¹³ Lines, G. and Bilhorn, T. 1996, n. 8, *supra*. ¹⁴ Lines, G. and Bilhorn, T. 1996, n. 8, *supra*.

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¹⁵ Menke, J., E. Reyes, A. Hepburn, D. Johnson, and J. Reyes. 2016, n. 9, *supra*.

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DECLARATION OF AARON JOHNSON ISO CDFW'S RESPONSE TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION ALLOWANCE FOR THE 2024-2025 WATER YEAR (Case No. CIV208568)

The significant changes in vegetation observed between 1995 and 2014 warrant further
 investigation using present day imagery and mapping techniques to better document the impacts
 of lowered groundwater along the Mojave River in the entire adjudicated area on the public trust
 resources, understand water requirements to maintain and restore native groundwater dependent
 vegetation along the river, and inform future management.

41. Camp Cady consists of 1,866 acres of land acquired between 1979 through 2001 for a 6 7 total cost of \$2,046,481 using state bond monies. Camp Cady had extensive surface water and 8 riparian habitat when it was acquired. The decline in water levels has had a significant negative 9 effect on the biological resources along the Mojave River at Camp Cady and throughout the 10 basin. Much of the natural vegetation along the Mojave River is dependent on reliable access to 11 groundwater. The roots of mature groundwater dependent plants must be able to reach 12 groundwater to survive and occasional surface flows and prolonged periods of shallow groundwater are needed for reproduction and growth of new individuals. Reproduction of riparian 13 14 woodland species is critical to sustaining these important habitat areas as older individuals die off 15 due to drought stress, wildfire, disease, age, and other causes of mortality. 16 42. As noted above, declining groundwater levels have caused widespread mortality

17 within the stands of cottonwood, mesquite, and willows at Camp Cady and throughout the

18 Mojave River.^{16,17,18,19} Notwithstanding these losses, Camp Cady still contains valuable riparian

19 vegetation. Riparian vegetation is a rare habitat type in the arid desert that despite only occurring

¹⁶ California Department of Fish and Wildlife. July 2005. Land Management Plan for

¹⁷ See CDFW 2004 Habitat Water Supply Plan, n. 7, *supra*; Lines, G. and Bilhorn, T.

20 on less than 1% of the landscape, provides habitat for more species of birds than all other

- 21 vegetation types combined.²⁰ Areas of desert riparian vegetation serve as biodiversity
- 22
- 23

Camp Cady Wildlife Area (Draft).

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1996, n. 8, *supra*. ¹⁸Webb, R., Boyer, D., and K. H. Berry. 2001. Changes in Riparian Vegetation in the Southwestern United State: Historical Change Along the Mojave River, California. *USGS Open*

File Report 02-245. U.S. Geological Survey.
 ¹⁹ Webb, R., and S. Leake. 2005. Ground-water surface-water interactions and long-term change in riverine riparian vegetation in the southwestern United States. *Journal of Hydrology*, Volume 320. Issues 3–4. 2006. Pages 302-323

Volume 320, Issues 3–4, 2006, Pages 302-323.
 ²⁰ Knopf, F., R. Johnson, R. Terrell, F. Samson, and R. Szaro. 1988. Conservation of riparian ecosystems in the United States. *Wilson Journal of Ornithology (Bulletin)*. 100 (2), pp.

1	hotspots ^{21,22} that support wildlife from vast areas of surrounding upland habitats, ²³ serve as
2	critical bird breeding habitat, important migratory stopover sites, and wintering areas for many
3	bird species, as documented by the Department's draft 2005 Land Management Plan for Camp
4	Cady. ²⁴ ("CDFW 2005 Camp Cady LMP"). Lytle et al. 2017 identified cottonwood riparian
5	forests as the most species rich riparian ecosystems in western North America ²⁵ and other
6	researchers similarly found that riparian deciduous forests of cottonwood and willow, with the
7	highest forest cover and varied structure provided the highest quality bird habitats. ²⁶ A total of
8	106 bird species have been documented using riparian vegetation at Camp Cady, ²⁷ including
9	southwestern willow flycatcher, which is listed as endangered under the California Endangered
10	Species Act (CESA), and least Bell's vireo, which is listed as endangered under CESA and the
11	federal Endangered Species Act (ESA). Tricolored blackbird (Agelaius tricolor), a California
12	Species of Special Concern, utilize wetland vegetation associated with ponds on the property.
13	Habitat with a cottonwood and willow canopy and a mesquite understory had the highest
14	abundance of birds of all habitat types at the wildlife area. ²⁸
15	43. In 2015, the Department conducted southwestern willow flycatcher surveys at Camp
16	Cady. Four migratory flycatchers were documented there. ²⁹ Since southwestern willow flycatcher
17	272-284.
18	²¹ Webb, R., and S. Leake. 2005. Ground-water surface-water interactions and long-term change in riverine riparian vegetation in the southwestern United States, n. 19, <i>supra</i> .
19	²² Rohde, M., Stella, J., Roberts, D., and M. Singer. 2021. <u>Groundwater dependence of</u> riparian woodlands and the disrupting effect of anthropogenically altered streamflow.
20	Proceedings of the National Academy of Sciences of the United States of America Vol. 118 No. 25
21	²³ Merritt, D., and Bateman, H. 2012. <u>Linking stream flow and groundwater to avian</u> <u>habitat in a desert riparian system</u> . <i>Ecological Applications</i> 22(7), 1973-1988.
22	²⁴ CDFW 2005 Land Management Plan for Camp Cady Wildlife Area (Draft), n. 16, supra.
23	²⁵ Lytle D.A., D.M. Merritt, J.D. Tonkin, J.D. Olden, L.V. Reynolds. <u>Linking river flow</u> regimes to riparian plant guilds: a community-wide modeling approach. <i>Ecol Appl.</i> 2017
24	Jun;27(4):1338-1350. ²⁶ Merritt, D., and Bateman, H. 2012. <u>Linking stream flow and groundwater to avian</u>
25	habitat in a desert riparian system, n. 23, <i>supra</i> . ²⁷ Tennant, Patrick. 2002. The Impacts of Saltcedar (<i>Tamarix ramosissima</i>) on the Avian
26	Communities of a Mojave Desert Wildlife Area. M.S. Thesis. California State University, Fullerton. ²⁸ <i>Ibid.</i>
27	Greene, Lacey. 2015. 2015. USFWS Report on whow Flycatcher, Yellow-offied
28	Cuckoo, and Bell's Vireo Surveys in Inyo and Mono Counties. California Department of Fish and
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	DECLARATION OF AARON JOHNSON ISO CDFW'S RESPONSE TO WATERMASTER'S MOTION TO

subspecies identification requires genetic information, it is unknown which subspecies was
 detected at Camp Cady.³⁰

3	44. In a 2018 publication, researchers from U.C. Berkeley conducted extensive bird
4	surveys in the Mojave Desert by re-visiting locations surveyed by biologists in the early twentieth
5	century. ³¹ The study found strong evidence of "an avian community collapse" with survey sites
6	losing 43% of their species on average and concluded the presence of surface water was an
7	important factor in retaining species diversity. The authors recommend that changes in water
8	management policies are needed to reverse the trend of drying from groundwater removal.
9	Subsequent analysis published by this group and others in 2019 found that water requirements are
10	increasingly important drivers of population declines, particularly as needed to maintain body
11	temperature in extreme heat. ³²
12	45. Shallow and perennial surface water, as occurred at Camp Cady, is critical for
13	numerous wildlife species in Baja. A 2018 survey published by USGS identified a total of 11
14	species of amphibians and reptiles at Camp Cady, including southwestern pond turtle (Actinemys
15	pallida). ³³ The survey concluded that southwestern pond turtle, which was common at that
16	location in the late 1990s and documented as a breeding population, has now been extirpated. ³⁴
17	Further study is needed as the species has been found to be at significant risk of extinction by
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20	Wildlife.
21	³⁰ <i>Ibid.</i> ³¹ Iknayan, Kelly and Steven Beissinger. 2018. Collapse of a desert bird community over
22	the past century driven by climate change. <u>Proceedings of the National Academy of Sciences</u>
23	115 (34) 8597-8602 (August 6, 2018). ³² Riddell, E., Iknayan, K., Wolf, B., Sinervo, B. and S. Beissinger. 2019. Cooling
24	requirements fueled the collapse of a desert bird community from climate change. <u>Proceedings of</u> <u>the National Academy of Sciences 116 (43) 21609-21615/.</u>
25	³³ Cummings, K., Puffer, S., Holmen, J., Wallace, J., Lovich, J., Meyer-Wilkins, K., Petersen, C. and R. Lovich. 2018. Biodiversity of amphibians and reptiles at the Camp Cady
26	Wildlife Area, Mojave Desert, California and comparisons with other desert locations. <u><i>California</i></u> <u><i>Fish and Game</i> 104(3): 129-147</u> .
27	³⁴ The southwestern pond turtle is a California Species of Special Concern and currently under evaluation by the U.S. Fish and Wildlife Service to be listed as a threatened species under
28	ESA.
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USGS researchers³⁵ and the U.S. Fish and Wildlife Service.³⁶ In addition, when perennial water
 existed in the river, desert bighorn sheep (*Ovis canadensis nelson*), a California fully protected
 species, were known to visit the property from the near Cady Mountains for water (CDFW 2005
 Camp Cady LMP) and continue to rely on water from the lower Mojave River in nearby Afton
 Canyon.

46. Camp Cady was acquired in 1979 to protect the surface water and associated riparian
habitats. When running and pooled surface water was present, cottonwoods and willows were
abundant with a dense understory of mesquite. According to Department records, the Mojave
River typically surfaced in the center of Camp Cady and generally flowed from late October to
August. These surface flows later ceased because of the declining groundwater levels and have
not returned except for rare large storm events typically occurring in the winter months. (CDFW
2004 Habitat Water Supply Plan; CDFW 2005 Camp Cady LMP.)

13 47. According to Department records, Camp Cady in the late 1970s contained extensive 14 areas of mesquite bosque, a type of forest habitat with mesquite dominant, of more than 500 15 acres; about 60 acres of cottonwood and willow riparian forest; three groundwater-fed riverbed 16 ponds totaling approximately six acres; and other locations within the riverbed with seasonal 17 springs and seeps. In addition to the perennial ponds, prior to 1982, flowing surface water of the 18 Mojave River was typically present from late fall into the summer months. Under earlier 19 management, the Department attempted to re-establish open water habitat through the 20 construction of river-bottom levees, totaling approximately 18 acres when sufficient water was 21 available. By the late 1980s, this area had been reduced to six acres and after repeated flood 22 damage to the levees, declining water availability, and changing management objectives for the 23 active channel, this practice ended in the late 1990s. By 1997, there was a loss of more than 400

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 ³⁶ U.S. Fish and Wildlife Service. 2023. <u>Species status assessment report for the</u> northwestern pond turtle (*Actinemys marmorata*) and southwestern pond turtle (*Actinemys pallida*), Version 1.1, April 2023. U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office.

 ³⁵ Lovich, J., Jefferson, G., Reynolds, R., Scott, P., Shaffer, H., Puffer, S., Greely, S.,
 Cummings, K., Fisher, R., Meyer-Wilkins, K., Gomez, D., Ford, M., and C. Otahal. 2021.
 Western pond turtles in the Mojave Desert? A review of their past, present, and possible future.
 Vertebrate Zoology 71: 317–334.

1	acres of mesquite, the riverbed ponds and seeps had been lost, and remaining cottonwood and
2	willow forest was limited to mostly mature trees. By 2003, the cottonwood/willow stands
3	consisted of mostly mature trees with scattered patches of mesquite, many of which were
4	unhealthy with sparse leaves. (CDFW 2004 Habitat Water Supply Plan; CDFW 2005 Camp Cady
5	LMP.) Of the 1,000 acres of riparian and aquatic habitat existing in the late 1980s, less than 200
6	acres remained healthy by 2004, with the remainder highly water stressed or dead. The only open
7	water habitat present at Camp Cady today exists in two pump-fed lined habitat ponds totaling 1.6
8	acres maintained as a refuge for Mojave tui chub (Siphateles bicolor mohavensis), a fish listed as
9	endangered under CESA and ESA, and a small, lined pond of 0.1 acre for wildfire protection.
10	48. Due to the ecological significance ³⁷ of desert riparian vegetation types the water
11	needs of these natural communities have been the subject of comprehensive study. USGS found
12	that tree mortality in cottonwood-willow woodlands increased significantly on the Mojave River
13	where the water-table depth was greater than about seven feet. ³⁸ The ideal water-table depth for
14	healthy tree growth was observed to be between two and four feet. ³⁹ Cottonwoods and willows
15	can withstand periods of stress such as temporary reductions in the water table from seven to ten
16	feet. However, prolonged periods of lowered groundwater resulted in near complete mortality in
17	the woodland species. These groundwater requirements for established mature cottonwoods have
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22	³⁷ See Welth D. and S. Leeke 2005. Crown drugter surface materiaters and long
23	³⁷ See Webb, R., and S. Leake. 2005. Ground-water surface-water interactions and long- term change in riverine riparian vegetation in the southwestern United States, n. 19, <i>supra</i> ;
24	Knopf, F., R. Johnson, R. Terrell, F. Samson, and R. Szaro. 1988. Conservation of riparian ecosystems in the United States, n. 20, <i>supra</i> ; and Rohde, M., Stella, J., Roberts, D., and M. Singer 2021. Computer dependence of riparian ecosystems and the disputting effect of
25	Singer. 2021. <u>Groundwater dependence of riparian woodlands and the disrupting effect of anthropogenically altered streamflow</u> , n. 22, <i>supra</i> .
26	³⁸ Lines and Bilhorn, 1996, n. 8, <i>supra;</i> Lines, Greg. 1999. "Health of Native Riparian Vegetation and Its Relation to Hydrologic Conditions along the Mojave River, Southern
27	California." USGS Water Resource Investigation Report 99-4112. U.S. Geological Survey. ³⁹ Lines, Greg. 1999. "Health of Native Riparian Vegetation and Its Relation to
28	Hydrologic Conditions along the Mojave River, Southern California, n. 38, <i>supra</i> .
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1	been substantiated by numerous other studies. ^{40,41,42,43,44} In a 1999 study by Greg Lines, he found
2	reproduction of cottonwoods and willows is essential for the continued persistence of these
3	vegetation types and occurs both from root sprouting from mature trees and germination of seeds
4	commonly occurs along temporarily wetted areas. ⁴⁵ However, seedlings will die off after
5	germination if the water table recedes too quickly (>1 inch per day) ⁴⁶ for their roots to reach
6	perennial water. ⁴⁷ Lines observed that no production occurs at sites where the water-table was
7	beyond about five feet in spring. ⁴⁸ Therefore, while the seven-foot minimum water table
8	standards established in Table H-2 for the riparian forest areas may be protective of mature trees,
9	they should be considered a minimum standard, as the general health of the community and
10	continued recruitment of new cottonwood and willow trees requires periods of shallower
11	groundwater and surface flow. ⁴⁹ There is now a significant body of literature documenting the
12	water needs to maintain healthy cottonwood forests, which includes both intermittent surface
13	flows and gradual declines in groundwater that allow the rapidly growing root to stay in contact
14	with groundwater. ⁵⁰
15	
16	⁴⁰ Horton, J.L., H.T. Kolb, and S.C. Hart. 2001. <u>Physiological Response to Groundwater</u>
17	<u>Depth Varies among Species and with River Flow Regulation</u> . <i>Ecological Applications</i> . 11. 1046-1059.
18	⁴¹ Stromberg, J.C., Beauchamp, V.B., Dixon, M.D., Lite, S.J., Paradzick, C., 2007. Importance of low-flow and high-flow characteristics to restoration of riparian vegetation along
	rivers in arid southwestern United States. Freshwater Biology 52, 651e679.
19 20	⁴² Stromberg, J. 2013. <u>Root patterns and hydrogeomorphic niches of riparian plants in the</u> American Southwest. <i>Journal of Arid Environments</i> . 94. 1–9.
20	⁴³ Stromberg, J.C., and Merritt, D.M. 2016. Riparian plant guilds of ephemeral, intermittent and perennial rivers. <i>Freshwater Biology</i> , 61, 1259-1275.
21	⁴⁴ Williams, J., J.C. Stella, S.L. Voelker, A.M. Lambert, L.M. Pelletier, J.E. Drake, J.M.
22	Friedman, D.A. Roberts, and M.B. Singer. 2022. <u>Local groundwater decline exacerbates response</u> of dryland riparian woodlands to climatic drought. <i>Glob Chang Biol</i> . Nov;28(22):6771-6788.
23	⁴⁵ Lines, Greg. 1999. "Health of Native Riparian Vegetation and Its Relation to Hydrologic Conditions along the Mojave River, Southern California, n. 38, <i>supra</i> .
24	⁴⁶ Rood, S., Braatne, J., and F. Hughes. 2003. <u>Ecophysiology of riparian cottonwoods:</u> stream flow dependency, water relations and restoration. <i>Tree Physiology</i> 23, 1113–1124.
25	⁴⁷ Lines, Greg. 1999. "Health of Native Riparian Vegetation and Its Relation to Hydrologic Conditions along the Mojave River, Southern California, n. 38, <i>supra</i> .
26	⁴⁸ <i>Ibid.</i> ⁴⁹ <i>Ibid.</i>
27	⁵⁰ Rood, S., Braatne, J., and F. Hughes. 2003. <u>Ecophysiology of riparian cottonwoods:</u>
28	stream flow dependency, water relations and restoration, n. 46, supra.
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1	49. Mesquite trees and shrubs are tolerant of drier environments than cottonwood and
2	willow woodlands, however, they are reliant on good access to groundwater. USGS found healthy
3	mesquite where the water-table depth ranged from eight to ten feet, but that mortality was
4	extremely high where groundwater was reduced below ten feet by pumping. ⁵¹ Root sprouting by
5	mesquite, as necessary for reproduction, occurred where the water table was at about eight feet in
6	the spring. Mesquite may tolerate periods of stress when the groundwater table exceeds ten feet.
7	However, mortality is likely to increase, and reproduction will not occur if groundwater depth
8	exceeds about 20 feet. ⁵² Where groundwater levels are maintained within the tolerances of
9	cottonwoods, willows, and mesquite, these native riparian species may persist and compete with
10	invasive salt cedar, but where groundwater declines beyond these thresholds salt cedar is
11	dominant, ⁵³ conversion to barren sand or upland shrub species occurs, and biological diversity
12	declines. ⁵⁴
13	50. As noted above, the groundwater dependent habitats along the Mojave River have
14	undergone significant environmental change due to groundwater drawdown, causing the death of
15	deep-rooted, native vegetation and the reactivation of wind-blown sand. Although widespread,
16	these impacts have been perhaps most significant in Baja and Camp Cady where the loss of
17	groundwater storage has been the most significant and where the Department has devoted the
18	most attention due to the Department's land ownership and continued staff. The loss of near-
19	surface water has converted an area near Camp Cady that was vegetated in the 1960s to a dry,
20	migrating dune field that inundates both vegetation and buildings. Groundwater levels continue to
21	exceed the critical depth of seven to ten feet needed to sustain a healthy riparian forest. (2024
22	Custis Declaration, pp. 6, 10-11, 23, Att. 7, 8.) As a result, riparian vegetation such as cottonwood
23	and willows get scoured during large flood events and their seedlings can no longer get
24	51
25	 ⁵¹ Lines, Greg. 1999. "Health of Native Riparian Vegetation and Its Relation to Hydrologic Conditions along the Mojave River, Southern California, n. 38, <i>supra</i>. ⁵² Ibid.
26	⁵³ Lite, S.J., and J.C. Stromberg. 2005. <u>Surface water and ground-water thresholds for</u>
27	<u>maintaining Populus - Salix forests, San Pedro River, Arizona</u> . <i>Biological Conservation</i> . 2005;125:153–167.
28	⁵⁴ Merritt, D., and Bateman, H. 2012. <u>Linking stream flow and groundwater to avian</u> <u>habitat in a desert riparian system</u> , n. 23, <i>supra</i> .
	24 DECLARATION OF AARON JOHNSON ISO CDEW'S RESPONSE TO WATERMASTER'S MOTION TO

DECLARATION OF AARON JOHNSON ISO CDFW'S RESPONSE TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION ALLOWANCE FOR THE 2024-2025 WATER YEAR (Case No. CIV208568)

established due to the lowered ground water table. New areas of the river are now open to wind
 erosion. Without competition from native vegetation, non-native salt cedar becomes established
 and further draws down the water table.

4 51. In 2001, the Department purchased, without using money from the Biological 5 Resources Trust Fund, the 314-acre Hilarides property at a total cost of \$819,350. The purchase 6 included 900 acre-feet of water rights in addition to the land. The Hilarides property is located in 7 Baja adjacent to Camp Cady and is now part of the designated Camp Cady Wildlife Area. Prior to 8 the Department's purchase of the Hilarides property, the pivot well in the lowlands portion of that 9 property pumped approximately 900 acre-feet of water per year. Since the Department's purchase 10 of the Hilarides property began, the use of the pivot well has decreased roughly 90% from 11 historical production. The pivot is used to irrigate low water demand crops including the seed 12 grass millet (various species) and Sudan grass (*Sorghum spp.*) for the purposes of providing 13 wildlife habitat and feed and stabilizing areas of sand that would otherwise overtake Harvard 14 Road.

52. The 1,647-acre Palisades Ranch was acquired by Western Rivers Conservancy in 15 16 2018 using grant funding from the U.S. Fish and Wildlife Service and the state Wildlife 17 Conservation Board, and subsequently transferred to the Mojave Desert Land Trust ("MDLT") 18 for long-term protection and management. Palisades Ranch is located in the Alto transition zone 19 and includes extensive riparian forest habitat within the Figure H-1 area. Since the acquisition of 20 this property, the Department has worked with the Watermaster to disperse funds from the 21 Biological Resources Trust Fund, in accordance with paragraph 3 in Exhibit H in the Judgment, 22 and the Watermaster approved the CDFW 2004 Habitat Water Supply Plan for the study and 23 enhancement of species and habitats located there, including the purchase of an additional 30 24 acre-feet of BAP to support habitat at the ranch. Biological Resources Trust Fund monies have 25 also been allocated to MDLT to conduct surveys for the Mojave River vole (Microtus 26 *californicus mohavensis*) and to initiate the first phase of a riparian habitat restoration project at 27 Palisades Ranch, which is anticipated to be expanded in future years.

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1 53. The Department continues to coordinate with the Watermaster and Mojave Desert 2 Resource Conservation District on the distribution of funds from the Biological Resources Trust 3 Fund to projects to benefit the Exhibit H areas on an annual basis. Recently funded and ongoing 4 projects include surveys for southwestern pond turtles by USGS; fuel reduction and invasive 5 species control along the Mojave River, including the study of the salt cedar biocontrol beetle 6 (Diorhaba carinulata) to reduce the threat of wildfire to remaining habitats in the river corridor 7 and reduce the water use by invasive salt cedar; a trial habitat restoration project that has been 8 underway at Camp Cady since 2015, led by partner Quail Forever; and maintaining the Camp 9 Cady pivot to provide wildlife habitat and mitigate windblown sand, and to offset costs to MWA 10 to continue measurement of the H1-2 well located near the Department's Mojave Narrows 11 Regional Park.

12 54. In conclusion, the Department opposes the Watermaster's recommendations that PSY 13 and FPA in Alto and Centro be increased to 53.3% and 60%, respectively for WY 2024-2025 14 because they are premature and will negatively impact Baja. Instead, the Department has 15 encouraged the Watermaster to continue to evaluate and monitor the response to reductions in 16 pumping and other factors in the existing network of wells and stream gages, including the 17 Riparian Habitat Monitoring Wells, before increasing production for the first time since the 1996 18 Judgment. The Department finds that there is evidence from the Riparian Habitat Monitoring 19 Wells (2024 Custis Declaration, pp. 5, 8, 13-16), and mapping of vegetation within the Figure H-20 1 riparian habitat areas, that suggests that increasing production in these areas is contrary to the 21 protection of public trust resources by lowering the groundwater table below a level necessary to 22 maintain healthy riparian vegetation communities along the Mojave River. Further, as stated in 23 the 2024 Custis Declaration, despite the increase in surface water inflow in the upper Mojave 24 River Basin that has occurred since the base period, inflow to Baja and the associated 25 groundwater recharge in the lower river system has been reduced by more than 50%, resulting in 26 a water balance surplus in Centro at Baja's expense. Prior groundwater modeling has highlighted 27 the impacts of pumping in the upper Mojave Basin and underscores the importance of 28 management in the upper system on Baja. Instead of increasing production in Alto and Centro,

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Watermaster should adopt a policy to return the historical surface flows to Baja and should not
 allow the upper subareas to produce additional water at the expense of the lower Mojave River. In
 fact, the public trust resources, such as the riparian vegetation in Baja, require the return of
 groundwater levels to levels more supportive of those resources and vegetation and believe that
 more needs to be done to protect those resources.

6 55. The Department also encourages the Watermaster to continue to employ new and 7 updated methods such as the numerical groundwater model and expand the use of the updated 8 model to include the entire adjudicated area. Such modeling, in combination with further study of 9 the natural and physical environment may provide critical insight into important issues that 10 remain, such as the loss of recharge in the lower Basin, as well as possible management solutions. 11 56. The Department agrees with the Watermaster's other FPA recommendations for WY 12 2024-2025 that FPA be held at 20.5% in Baja, reduced by 5% in Este, and held at 50% in Oeste. 13 57. Finally, the Department opposes the significant reduction in consumptive water use 14 allocation to riparian vegetation in Baja from 2,000 acre-feet to 984 acre-feet as shown in the updated reference PSY calculation for Baja in the 2024 PSY Update, as well as the departure 15 from the PSY calculation method described in Exhibit C. 16 17

I declare under penalty of perjury, under the laws of the State of California, that theforegoing is true and correct.

Executed on May 21, 2024 in Bishop, California. JOHNSON

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DECLARATION OF AARON JOHNSON ISO CDFW'S RESPONSE TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION ALLOWANCE FOR THE 2024-2025 WATER YEAR (Case No. CIV208568)

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ATTACHMENT A

EDUCATION

Bachelors Degree in Environmental Studies, Highest Honors University of California, Santa Cruz (UCSC), June 2005 Merrill College Honors (UCSC)

TRAININGS/CERTIFICATIONS

Water Measurement Devices and Methods, UC Cooperative Extension Measuring and Monitoring Rare Plant Populations, CDFW Vegetation Rapid Assessment, California Native Plant Society Wildland Weed Mapping Methods, Utah State University

PROFESSIONAL EXPERIENCE

California Department of Fish and Wildlife (CDFW), Senior Environmental Scientist. Supervise and oversee the CDFW Inland Deserts Region's northern lands program staff in a variety of complex activities related to management of CDFW lands, water rights, and related activities. I am responsible for the overall planning, analysis, and preparation of land conservation documents, land management plans, and associated maintenance and restoration projects for state owned and managed properties in Inyo, Mono, and northern San Bernardino Counties, and ensure environmental compliance for the program. This includes the preparation of environmental documents, grant requests, contracts, special use agreements, and various assorted reporting, including local, state, and federal environmental compliance and coordination such as required under CEQA, CESA, LSA and NEPA (10/2021-present).

Environmental Scientist. As an Environmental Scientist at Range C in the CDFW lands program I supported the Senior Environmental Scientist in various planning and analysis tasks including the preparation of land conservation documents, land management plans, and maintenance and restoration projects for CDFW properties, and completed environmental review and compliance tasks and documents. I served as lead person for the Wildlife Habitat Supervisor, Scientific Aids, and Wildlife Habitat Assistant coordinating day-to-day work assignments and priorities (1/2015-9/2021).

Eastern Sierra Land Trust, Lands Director. In this position I directed the land conservation and stewardship programs of a non-profit land conservation organization. The position involved managing complex real estate transactions to protect land and water resources, coordinating closely with private landowners and partner agencies, and grant writing and management. I conducted annual monitoring of all land trust properties and easements, completed monitoring reports, prepared resource inventories and reports and plans based on field data, interviews, and coordination with resource management agencies. The position required strong organizational skills, project management, and daily written and verbal communication (10/2008-12/2014).

USDA, Exotic & Invasive Weed Research Unit. Biological Science Technician. In this position I supported USDA Agricultural Research Service (ARS) efforts to develop a remote sensing/GIS spatial plant ecology program while also participating in regular botanical fieldwork to support the research of my unit. My regular office duties included hyperspectral remote sensing image processing, GIS mapping and analysis, data collection flight planning, as well as plant ecology lab work. Fieldwork included quantitative plant ecology data collection tasks related to the population demography of invasive plants, GPS spatial data collection, as well as supervision of volunteers on mapping projects (10/2007 - 10/2008).

City of Boulder, Open Space & Mountain Parks. Vegetation Management Crew Leader. This position included budgeting, hiring and training of the crew, as well as daily supervision. The office component of this position included project planning, GIS data management, quality assurance, and report writing. This work also included planning for and managing daily weed removal work projects, plant identification, detailed project tracking and reporting, designing, and implementing monitoring plans, as well as educating the public and local landowners (3/2006 - 9/2007).

ATTACHMENT B



State of California – Natural Resources Agency DEPARTMENT OF FISH AND WILDLIFE Inland Deserts Region 787 North Main Street, Suite 220 Bishop, CA 93514 www.wildlife.ca.gov GAVIN NEWSOM, Governor CHARLTON H. BONHAM, Director



February 20, 2024

Mojave Basin Area Watermaster Mojave Water Agency 13846 Conference Center Drive Apple Valley, CA 92307-4377

Dear Watermaster Board Members,

The California Department of Fish and Wildlife (CDFW) understands that Watermaster Engineer staff will be presenting its formal recommendation for free production allowance (FPA) for Water Year (WY) 2024-2025 at the upcoming February 28, 2024, Watermaster Board (Board) meeting. CDFW hereby submits its preliminary comments and concerns regarding recent changes to the process used to re-calculate production safe yield (PSY) and the resulting FPA in the Alto and Centro subareas. As explained below, CDFW is concerned that the Watermaster's new approach directly contradicts the Court's recommendation and the Watermaster's own conclusions in 2023. In addition, CDFW and the other parties have not had enough time to review and evaluate this new approach. For these reasons, we request that the Watermaster not adopt the new approach to calculating PSY in Alto and Centro subareas for the WY 2024-2025 FPA recommendations, and instead provide additional time for review and engagement by CDFW and the other parties to discuss new groundwater modeling information regarding water supply, the PSY calculations, and long-term groundwater elevation monitoring across the basin.

CDFW is the trustee agency for the state's fish and wildlife resources and is a party to the Judgment After Trial, dated January 10, 1996 (Judgment). In addition, CDFW is a landowner in two of the five subareas in the Judgment, the Baja and Alto Subareas. In the Baja Subarea, CDFW owns the Camp Cady Wildlife Area (Camp Cady), and in the Alto Subarea, CDFW owns the Mojave Narrows Regional Park and Mojave River Fish Hatchery.

In 1968, CDFW purchased the Mojave Narrows Regional Park, in large part for the extensive riparian habitat existing along the Mojave River which flows through the park. In 1969, CDFW purchased the Mojave River Fish Hatchery, the tailwater from which is a critical source of surface water for the Mojave Narrows Regional Park and other Verde Ranch Producers.

For more than a decade, CDFW has supported the Board's annual recommendations to the Court for reductions in FPA to bring the basin into balance, finding the

Conserving California's Wildlife Since 1870

Subject: Updates to Production Safe Yield and Free Production Allowance for Water Year 2024-2025

Mojave Basin Area Watermaster February 20, 2024 Page 2

recommendations consistent with the physical solution in the Judgment. However, CDFW is now concerned that Watermaster staff have introduced complex new methods to calculate PSY and has recommended increasing, rather than decreasing, FPA in some subareas, without the opportunity for CDFW to review and comment on the recommendations and the methods behind them.

CDFW first became aware of the new proposal to increase PSY and FPA in the Alto and Centro subareas in the Watermaster's status report to the court on December 27, 2023, "Watermaster's Status Report Regarding Production Safe Yield and Free Production Allowance Calculations," and again in the January 24, 2024, Watermaster meeting item, "Groundwater Model & Production Safe Yield Update" presented by Watermaster Engineer Robert Wagner. CDFW has not yet been provided with final FPA recommendations for WY 2024-2025. However, these two documents indicate that Watermaster staff are prepared to reverse both the Court's recommendation and its own recommendation by increasing PSY in the Alto and Centro subareas and recommending an increase in FPA.

In his May 2023 declaration to the Court, Mr. Wagner recommended holding FPA in the Alto subarea at 50% for five years, noting that a reduction in PSY was needed and the groundwater model supported the reduced PSY and FPA. Furthermore, the Court's June 2023 order noted the need for PSY in the Alto subarea to be adjusted downward and encouraged the Watermaster to consider variability in supply over different base periods, including the recent extended period of drought. In the September 2023 Court order Judge Reimer noted that "...Alto's FPA has been reduced to just above PSY. Nevertheless, the storage levels have continued to drop, just as they have for the last 10 years. If FPA is reduced to PSY, but groundwater storage is still declining...it's logical to question whether the PSY calculations are founded on correct assumptions."

CDFW has not had adequate time to evaluate the PSY re-calculation methods and results, or the new groundwater modeling that is apparently being used to support such increases. While CDFW supports evaluating new approaches to re-calculate PSY in the various subareas that take drought and climate change into account, as well as the use of improved tools, such as numerical groundwater models, CDFW also believes that it is too early to integrate such new methods into the PSY and FPA recommendations for the coming year, particularly when the outputs of such novel approaches appear to indicate such a substantial change in basin management. CDFW would like to engage more closely with the Watermaster staff to better understand the influence of the model on PSY, PSY re-calculation methods, changes to storage, and ongoing monitoring of the results of the rampdown in the subareas.

Exhibit H of the Judgment, Biological Resource Mitigation, states that the physical solution was developed in consideration of the water needs of public trust resources and seeks to achieve certain minimum groundwater table standards necessary to maintain sensitive riparian resources and species associated with the Mojave River system. CDFW does not believe that increasing either PSY or FPA in the Alto and

Mojave Basin Area Watermaster February 20, 2024 Page 3

Centro subareas is consistent with the objectives of maintaining riparian resources in the basin at this time.

CDFW appreciates the opportunity to communicate its concerns regarding the Watermaster staff's proposal to integrate the recent PSY recalculations and groundwater modeling efforts into the FPA recommendations for WY 2024-2025. In summary, CDFW is concerned that increasing production in the Alto and Centro subareas this year is counter to the Court's direction to re-evaluate safe yield in light of recent decades of drought and continued depletion of storage in Alto, represents a significant change in direction by the Watermaster both in terms of the methods to calculate PSY and anticipated outcomes, and may result in undesirable impacts to groundwater levels and associated fish and wildlife resources. CDFW requests additional time to engage with the Watermaster staff on the new PSY calculations and groundwater model. Additionally, more time is needed to continue to review changes in monitoring well groundwater elevation data in response to the ongoing rampdown of pumping, particularly within the Exhibit H areas along the Mojave River where fish and wildlife species have been severely impacted since groundwater pumping increased dramatically in the 1950s. CDFW will be attending the February 28 and March 27, 2024, Board meetings when the Board will formally discuss and consider this matter.

Sincerely,

DocuSigned by: laron Johnson 6477ACD4E0DE4DB...

Aaron Johnson Senior Environmental Scientist Inland Deserts Region

ec:

CDFW

Chris Hayes, Environmental Program Manager <u>chris.hayes@wildlife.ca.gov</u>

Alisa Ellsworth, Environmental Program Manager alisa.ellsworth@wildlife.ca.gov

Stephen Puccini, Attorney V stephen.puccini@wildlife.ca.gov

Department of Justice Marilyn H. Levin, Deputy Attorney General <u>marilyn.levin@doj.ca.gov</u>

Noah Golden-Krasner, Deputy Attorney General V noah.goldenkrasner@doj.ca.gov

ATTACHMENT C



State of California – Natural Resources Agency DEPARTMENT OF FISH AND WILDLIFE Inland Deserts Region 787 North Main Street, Suite 220 Bishop, CA 93514 www.wildlife.ca.gov GAVIN NEWSOM, Governor CHARLTON H. BONHAM, Director



March 19, 2024

Mojave Basin Area Watermaster Mojave Water Agency 13846 Conference Center Drive Apple Valley, CA 92307-4377

Dear Watermaster Board Members,

The California Department of Fish and Wildlife (CDFW) has reviewed the Watermaster's recommendation for free production allowance (FPA) for Water Year (WY) 2024-2025 as presented at the February 28, 2024, Watermaster Board (Board) meeting and further described in the February 28, 2024, "Production Safe Yield & Consumptive Use Update" (2024 PSY Update) and draft "30th Annual Report of the Mojave Basin Area Watermaster" (Watermaster's 30th Annual Report). CDFW hereby submits its comments to the Board regarding FPA and the recently completed 2024 PSY Update in advance of the Board's March public hearing to receive comments and adopt the proposed FPA for WY 2024-2025.

As noted in my remarks to the Board in February and in our comment letter dated February 20, 2024, CDFW is concerned that implementation of the Watermaster's new approach to determining PSY and the resulting increases in FPA for the Alto and Centro Subareas is premature. Specifically, CDFW notes that that the increase in FPA in Alto is reliant on complex modeling outputs (and the underlying model assumptions), as well as significant imported artificial recharge in the future, rather than observed trends reflected in the ground and surface water monitoring network. CDFW believes that a more cautious "wait and see" approach is warranted given the sensitive fish and wildlife resources at risk. CDFW recommends that the artificial recharge prescribed by the Watermaster be applied first, followed by monitoring to verify the projected modeling results before FPA is increased. CDFW has additional concerns with the new PSY recommendations explained further below.

CDFW ROLE

CDFW is the trustee agency for the state's fish and wildlife resources and is a party to the Judgment After Trial, dated January 10, 1996 (Judgment). In addition, CDFW is a landowner in two of the five subareas in the Judgment, the Baja and Alto Subareas. In the Baja Subarea, CDFW owns the Camp Cady Wildlife Area (Camp Cady), and in the Alto Subarea, CDFW owns the Mojave Narrows Regional Park and Mojave River Fish Hatchery. Exhibit H of the Judgment, Biological Resource Mitigation, states that the

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Subject: Updates to Production Safe Yield and Free Production Allowance for Water Year 2024-2025

Mojave Basin Area Watermaster March 19, 2024 Page 2

physical solution was developed in consideration of the water needs of public trust resources and seeks to achieve certain minimum groundwater table standards necessary to maintain sensitive riparian resources and species associated with the Mojave River system.

COMMENTS AND RECOMMENDATIONS

CDFW met with the Watermaster Engineer and staff on March 11, 2024, to discuss questions pertaining to the 2024 PSY update and related topics and has subsequently requested additional materials and information. CDFW staff appreciate that the Watermaster has been responsive, yet significant questions remain that are unlikely to be fully resolved before the June Court date to set FPA for WY 2024-2025.

CDFW acknowledges that there have been substantial advances in the tools and datasets available to model and monitor groundwater systems in the nearly 30 years since the Judgment was implemented and is supportive of using these resources to improve our understanding of water in the Mojave Basin; However, CDFW also believes that critical decisions on water management should be weighted towards observed real-world data over modeled outcomes.

In the Alto Subarea, CDFW understands that the proposed increase in FPA is based on a modeled scenario of holding production at 2020 levels^{1,2} and the annual import of 17,500 acre-feet of artificial recharge for 20 years. CDFW agrees that the Watermaster's modeled response to such imported water indicates potential benefits to fish and wildlife resources but believes that it is prudent to monitor the results of this action before increasing production. Such an approach would be consistent with Mr. Wagner's May 2023 declaration to the Court in which he recommended holding FPA in the Alto subarea at 50% for five years. Additionally, the Watermaster's 30th Annual Report for the current year states that:

We note that variability showing lower lows and lower highs is an indication of extractions exceeding recharge over time. Water levels in the western portion of Alto in the regional aquifer exhibit declines consistent with locally heavy pumping and limited local recharge... Continued pumping in depleted areas of the regional system may result in long-term local negative impacts such as declining yields and water quality problems. Water levels in near river wells, particularly in the south part of Alto, experienced a trend of decline for 7 years consistent with limited recharge due to drier than average conditions... Continuation of dry conditions will result in water level declines

¹ Mojave Water Agency Watermaster, 2024 PSY Update (February 24, 2024), Appendix A, Alto & Centro Subarea Water Supply Update, p. 3 and Table 2.

² Mojave Water Agency Watermaster, 2024 PSY Update (February 24, 2024), Appendix G, Upper Mojave River Basin Groundwater Model, p. 4.

Mojave Basin Area Watermaster March 19, 2024 Page 3

(Watermaster's 30th Annual Report, pp. 27-28).

As indicated in this discussion, water levels in the Alto Subarea are still influenced by locally heavy pumping and the hydrographs for many wells do not indicate the levels of stability that would warrant increased production at this time. Further, the modeled scenario of artificial recharge in the Alto Subarea assumes that additional "wet water" is imported annually, which differs from other forms of replacement water such as unused FPA, claim program, and pre-stored water. Appendix G of the 2024 PSY Update notes the assumption that "17,500 [acre-feet] imported water was delivered at the Deep Creek (directly to the river) site and spread over a three month period from June to August" (Appendix G, p. 4). Monitoring of this approach is needed to ensure the desired results are achieved.

In the Baja Subarea, the Watermaster has set PSY equal to production based on the observation that "in some wells the decline has stopped or is reversing."³ CDFW notes that in the contemporary PSY calculation,⁴ the surface water inflow to the Baja Subarea has been reduced significantly and agrees this is consistent with observed measurements. Therefore, as with last year, CDFW agrees that based on the proposed PSY, further ramp down of FPA is not prescribed for WY 2024-2025. CDFW is concerned, however, that groundwater levels in portions of the Baja Subarea, particularly below the Waterman Fault at the CDFW Camp Cady/ Exhibit H riparian habitat areas, are now at such a low depth that the natural establishment of native riparian vegetation is not occurring. CDFW encourages the Watermaster to continue investigating why the surface water inflow to the Baja Subarea has been so dramatically reduced in the last 30 years, in addition to possible remedies to this lost inflow and storage.

Additionally, CDFW takes issue with the significant 51% reduction in water use allocated to riparian vegetation (i.e., phreatophyes) in the proposed PSY table. The original 2,000 acre-foot per year value was the result of a thorough investigation published by the U.S. Geological Survey⁵ and was later validated in 2011 by Utah State University and the U.S. Bureau of Reclamation.⁶ CDFW finds that this reduction in groundwater allocation effectively incentivizes the loss of riparian habitat resulting from

³ Mojave Water Agency Watermaster, *Draft Thirtieth Annual Report of the Mojave Basin Area Watermaster*, Water Year 2022-23 (February 28, 2024), 28.

⁴ Mojave Water Agency Watermaster, 2024 PSY Update, February 24, 2024, Appendix E, *Baja Supply Update*, Table 2 [Table 5-1 (Based on 2001-2020)].

⁵ U.S. Department of the Interior, U.S. Geological Survey, "Riparian Vegetation and Its Water Use During 1995 Along the Mojave River, Southern California," by Lines, G and Bilhorn, T, *Water-Resources Investigations Report 96-4241*. U.S. Geological Survey, (Sacramento, CA: 1996).

⁶ USU and US Bureau of Reclamation, "Evapotranspiration Water Use Analysis of Saltcedar and Other Vegetation in the Mojave River Floodplain, 2007 and 2010," *Mojave Water Agency Water Supply Management Study*, Phase 1 Report, (2011).

Mojave Basin Area Watermaster March 19, 2024 Page 4

groundwater depletion and the lowering groundwater table that has occurred since the implementation of the physical solution.

CDFW appreciates the opportunity to communicate its concerns regarding the integration of the 2024 PSY Update into the FPA recommendations for WY 2024-2025. In summary, 1) CDFW respectfully urges the Watermaster to proceed with the importation of water proposed in the Alto Subarea while holding FPA at current levels, until such time that real-world monitoring data indicates that future changes in production are warranted; 2) CDFW agrees that based on the proposed PSY in the Baja Subarea, reducing FPA is not indicated for the coming water year, but CDFW remains concerned about the reduced inflow and cumulative loss in storage; and 3) CDFW believes that reducing the allocation of water to riparian vegetation in the Baja Subarea PSY calculation sets a poor precedent when the intent of the physical solution was to consider the water needs of public trust resources. CDFW will be attending the March 27, 2024, Board meeting when the Board will hear additional comments and vote on its FPA recommendation to the Court.

Sincerely,

DocuSigned by:

haron Johnson 6477ACD4E0DE4DB...

Aaron Johnson Senior Environmental Scientist Inland Deserts Region

ec:

CDFW

Chris Hayes, Environmental Program Manager <u>chris.hayes@wildlife.ca.gov</u>

Alisa Ellsworth, Environmental Program Manager alisa.ellsworth@wildlife.ca.gov

Stephen Puccini, Attorney V stephen.puccini@wildlife.ca.gov

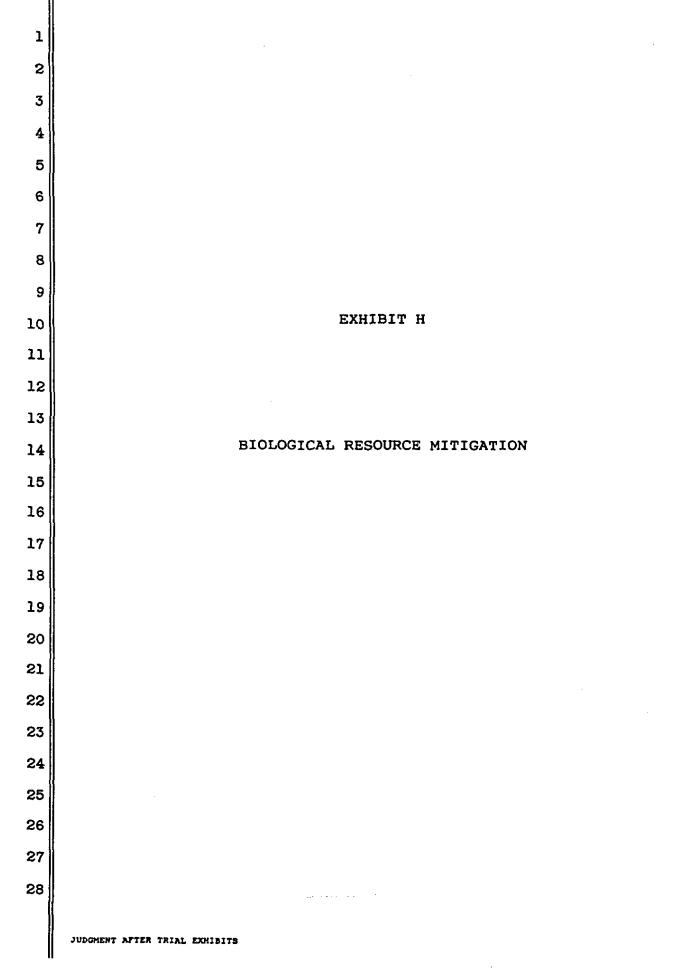
Department of Justice

Marilyn H. Levin, Deputy Attorney General <u>marilyn.levin@doj.ca.gov</u>

Noah Golden-Krasner, Deputy Attorney General V noah.goldenkrasner@doj.ca.gov

ATTACHMENT D





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1	EXHIBIT H
2	BIOLOGICAL RESOURCE MITIGATION
3	1. Protection of and Description of Existing Riparian
4	Habitat. In arriving at a Physical Solution, the Parties have
5	taken into consideration the water needs of the public trust
6	resources of the Mojave Basin Area, including but not limited to,
7	those species listed in Table H-1 within each of the areas as shown
8	on Figure H-1 and the riparian habitat areas shown on Figure H-1
9	and described generally as follows:
10	a. The area which extends, south to north, in the Alto
11	Subarea, from the intersection of the north line of Section 36,
12	Township 5 North, Range 4 West with the Mojave River channel to the
13	United States Geological Survey gauging station at the Lower
14	Narrows;
15	b. The Lower Narrows to the Helendale Fault (Transition
16	Zone);
17	c. The Harvard/Eastern Baja Subarea reach of the Mojave
18	River that extends west to east, from Harvard Road to the Iron
19	Ranch/Iron Mountain area (0.5 miles east of the west line of
20	Section 20, Township 10 North, Range 4 East).
21	2. Protection Pursuant to Physical Solution. The following
22	aspects of the Physical Solution must be implemented to seek to
23	achieve the water table standards set forth in Table H-2 which were
24	proposed by DFG as being necessary to maintain and converse the
25	riparian resources in the areas shown on Figure H-1, including the
26	species listed in Table H-1:
27	a. Pursuant to Paragraph 24(o) of the Judgment, the
28	Watermaster in recommending an adjustment in Free Production

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Allowance, shall compare the Free Production Allowance with the 1 estimated Production Safe Yield. In the event the Free Production 2 Allowance exceeds the estimated Production Safe Yield by five 3 percent or more, Watermaster shall recommend a reduction of the 4 Free Production Allowance equal to a full five percent of the 5 aggregate Subarea Base Annual Production. In considering whether 6 to increase or decrease the Free Production Allowance in a Subarea, 7 Watermaster shall, among other factors, take into consideration for 8 the areas shown on Figure H-1 the Consumptive Use of water by 9 riparian habitat, the protection of public trust resources, 10 including the species listed in Table H-1 and the riparian habitat 11 areas shown on Figure H-1, and whether an increase would be 12 detrimental to the protection of public trust resources. 13

b. If, pursuant to Paragraph 27, Watermaster buys or leases Free Production Allowance in the Baja Subarea below the Calico-Newberry Fault to satisfy the need for Replacement Water, priority shall be given to purchases or leases that will result in reducing Production in or near the area described in Subparagraph 1(c) of this Exhibit.

20 c. Pursuant to Paragraph 2 of Exhibit "G", Watermaster 21 shall purchase Replacement Water to maintain Groundwater levels in 22 the Transition Zone.

3. Additional Protection Pursuant to Trust Fund Established
 by Watermaster Using the Proceeds of Biological Resource
 Assessments.

a. Watermaster shall establish a Biological Resources
 Trust Fund account for the benefit of the riparian habitat areas
 shown on Figure H-1 and the species listed on Table H-1. To

JUDGHENT AFTER TRIAL EXHIBITS

H - 2

establish and maintain the Trust Fund Watermaster shall levy against each acre-foot of Production within the Basin Area, other than Production by the California Department of Fish and Game (DFG), a Biological Resource Assessment of fifty cents (\$0.50) (1993 dollars) to be collected at the same time and in the same manner as the Administrative Assessment, except that no Biological Resources Assessment shall be levied whenever the Trust Fund account balance exceeds \$1,000,000 (1993 dollars).

Watermaster shall make funds held in the Biological b. 9 Resources Trust Fund available to DFG only in the event that 10 Groundwater levels are not maintained as set forth in Table H-2. 11 Watermaster shall take action to acknowledge any proposed 12 expenditure from the Biological Resources Trust Fund by DFG. Such 13 Watermaster action shall be subject to the review procedures set 14 forth in Paragraph 36 of the Judgment, provided that any motion 15 made pursuant thereto and any Court disapproval of such Watermaster 16 action and proposed DFG expenditure may be based only: 1) on the 17 ground that the Groundwater levels set forth in Table H-2 are being 18 maintained; and/or 2) the ground that the proposed expenditure is 19 not for any of the purposes set forth in Subparagraphs 3.b.(i), 20 (ii), or (iii) below in this Exhibit. The Biological Resources 21 Trust Fund may be used only for the following purposes and only in 22 the three areas identified on Figure H-1: 23

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 not to exceed \$100,000 for the preparation by DFG of a DFG habitat water supply management plan, which plan shall include the water needs of the species listed in Table H-1 and the riparian habitat areas shown on Figure H-1.

JUDGHENT AFTER TRIAL EXHIBITS

H - 3

ii. the purchase or lease by DFG of Supplemental Water or the lease or purchase of DFG of Base Annual Production Rights to be used to meet riparian habitat water needs of the species listed in Table H-1 and the riparian habitat areas shown on Figure H-1.

iii. the construction, repair and replacement of wells or other facilities identified in the plan prepared pursuant to Subparagraph (i), above, and/or any other measures necessary to implement the plan.

DFG shall not prepare or make any expenditure from the trust fund for the payment of administrative overhead or staff of DFG.

4. DFG agrees that absent substantial changed circumstances, DFG shall not seek to modify the provisions of this Judgment in any way to add to or change the above-stated measures to protect the referenced species or habitat. Nothing stated in this Judgment or in this Exhibit "H" is intended nor shall be deemed to relieve any Party hereto from any obligation or obligations not specifically referenced in this Exhibit H. Nothing in this Judgment or in this Exhibit H is intended or shall be construed to be a waiver by the State or any of its departments or agencies, including DFG, of its rights and obligations under the common law, the public trust doctrine, the constitution, statutes and regulations to preserve, protect or enhance the natural resources of the State including rare, threatened or endangered species or species of concern.

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TABLE H-1

LIST OF SPECIES

	ALTO			CENTRO		BAJA		
SPECIES	Forks Dam to Upper Narrows	Upper Narrows to Lower Narrows	Lower Narrows to Helendale	Helendale to Hodge	Hodge to Barstow	Barstow to Harvard Road	Harvard Road to Mannix Wash	Afton Canyon
Purple Monkeyflower	6	1	4. 201			i i se se se si i	and the second second	
Mohave Monkeyflower	6		6	6	6	6		
Mohave Tarweed	5							
Desert Cymopterus	6	1				1		-
Barstow Woolly Sunflower					6	6		
Victorville Shoulderband	6	6		1				
Mohave Tui Chub			1			1	1, 3	
California Red-legged Frog	6	6	6	6				
Southwestern Pond Turtle	6		6	6	10.120.121	6	6	6
Desert Tortoise	2,4		2,4	2,4	2,4	2,4		
San Diego horned Lizard	6		1111		all company of	1.2		
Cooper's Hawk	8	8	I have been		C TRACT	1	1	
Ferruginous Hawk	8	8	1.4			1.5.5.5.1		
Swainson's Hawk	4	4					5. C 17	
Bald Eagle	1, 3	1,3	The second	1000	5	1:	1.000	
Merlin	6, 8	6, 8	11.75.77.01		11	1		
Prairie Falcon	6, 8	6, 8	6, 8	6, 8	6, 8	6,8		
Western Yellow-billed Cuckoo	3,7			3,7	3,7	1.0.0.00		
Southwestern Willow Flycatcher	8	1				1.	5 PE-50	
Brown-crested Flycatcher		8	1					
Vermillion Flycatcher	8				1.1.2.	8	8	8
Le Conte's Thrasher	8	11	4				1	
Least Bell's Vireo	1, 3		11		1			1,3

TABLE H-1

LIST OF SPECIES (CONT'D)

	ALTO			CENTRO		BAJA		
SPECIES	Forks Dam to Upper Narrows	Upper Narrows to Lower Narrows	Lower Narrows to Helendale	Helendale to Hodge	Hodge to Barstow	Barstow to Harvard Road	Harvard Road to Mannix Wash	Afton Canyon
Yellow Warbler	9	1	1.		1		Production of the	
Yellow-breasted Chat	8	8	1.		8	8		
Summer Tanager	8	8						8
Pale Big Earred Bat	8							
Mohave Ground Squirrel	4,6		4,6	4,6				
Mohave Vole		1	6	6				
Nelson's Bighorn Sheep		(a) (b) (b) (c) (c)			10	10		10
TOTAL NUMBER OF SPECIES - 30 TOTAL NUMBER OF SPECIES IN EACH AREA:	25	11	7	8	7		3	5

1 = Federally Endangered

2 = Federally Threatened

3 = State Endangered

4 = State Threatened

5 = Federal Category: 1

6 = Federal Category: 2 7 = Federal Category: 3b

8 = State: Special Concern

9 = State: Sensitive

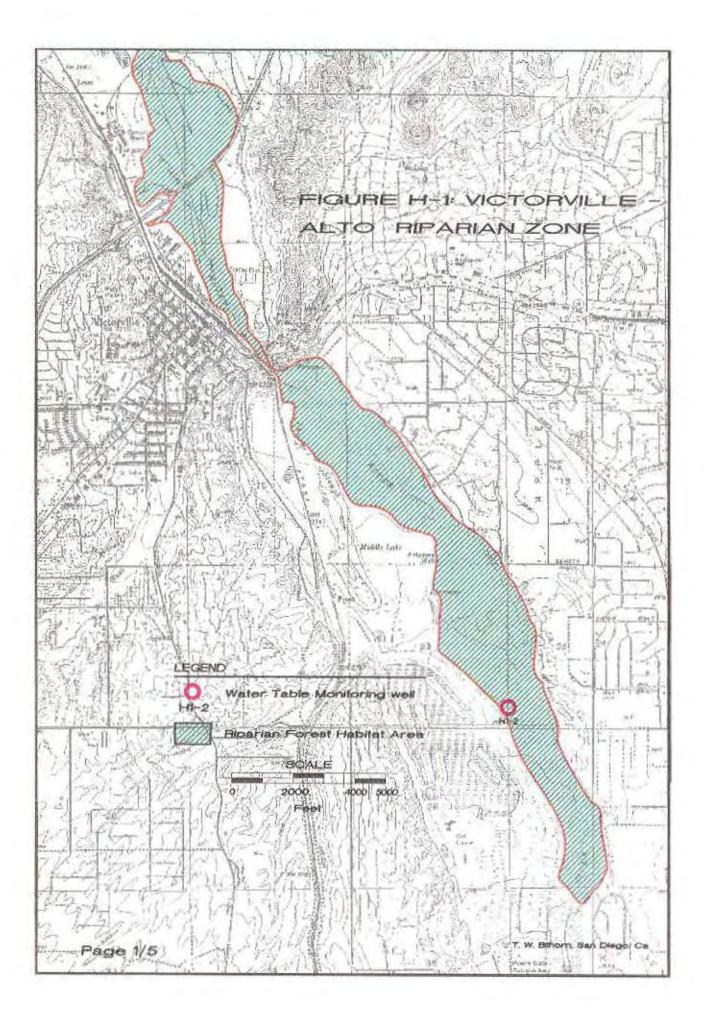
10 = State: Fully Protected

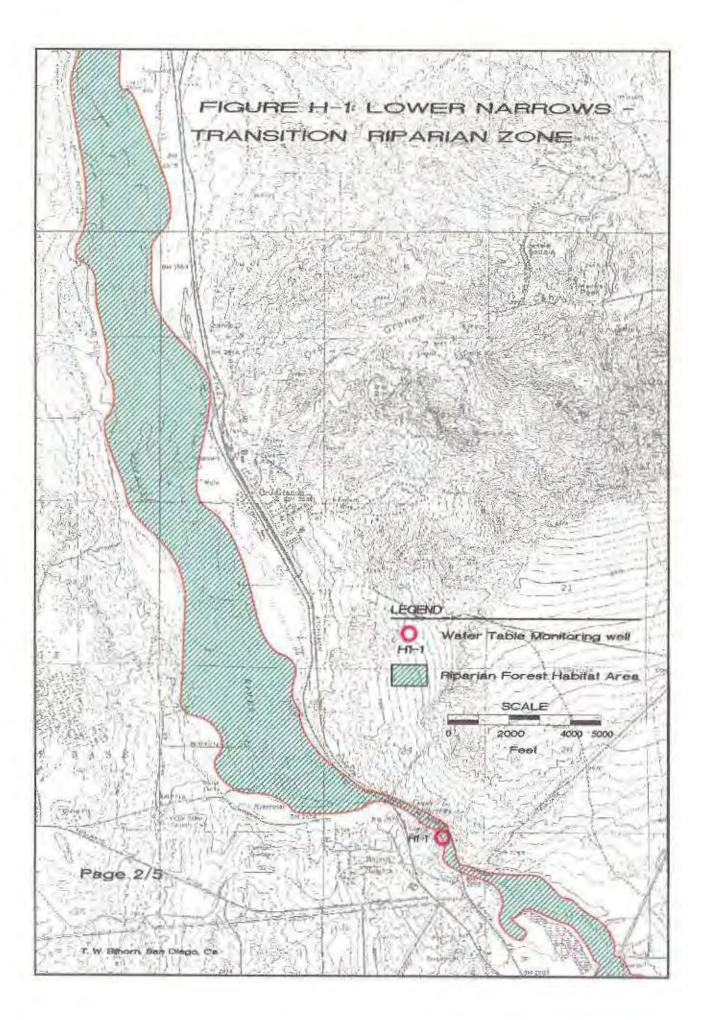
TABLE H-2

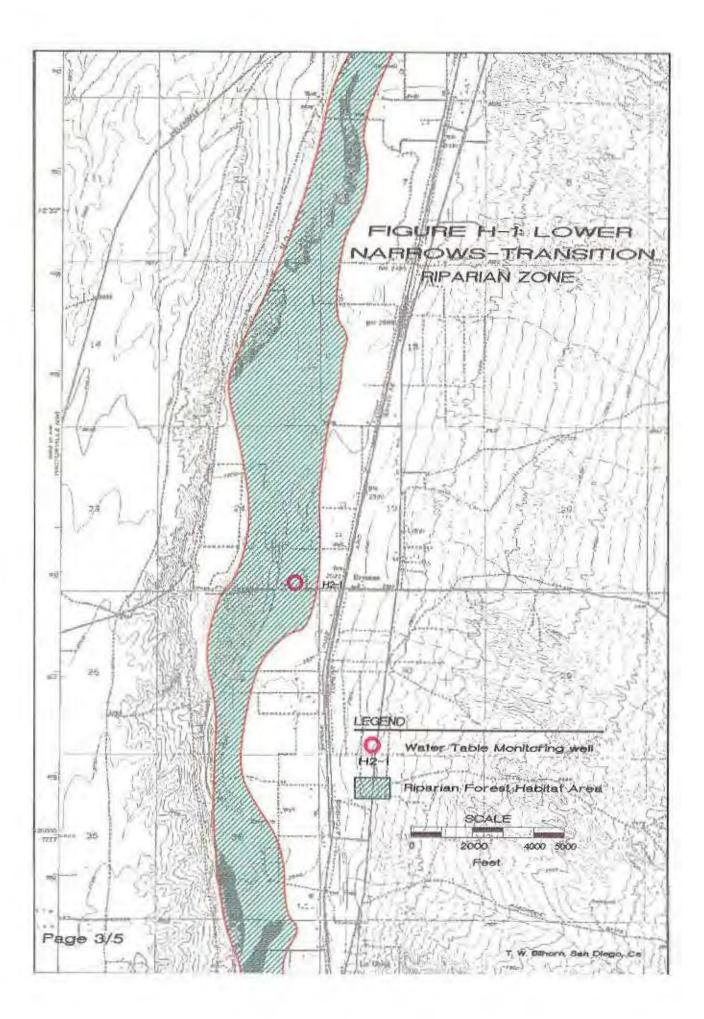
RIPARIAN HABITAT MONITORING WELL WATER LEVEL CRITERIA

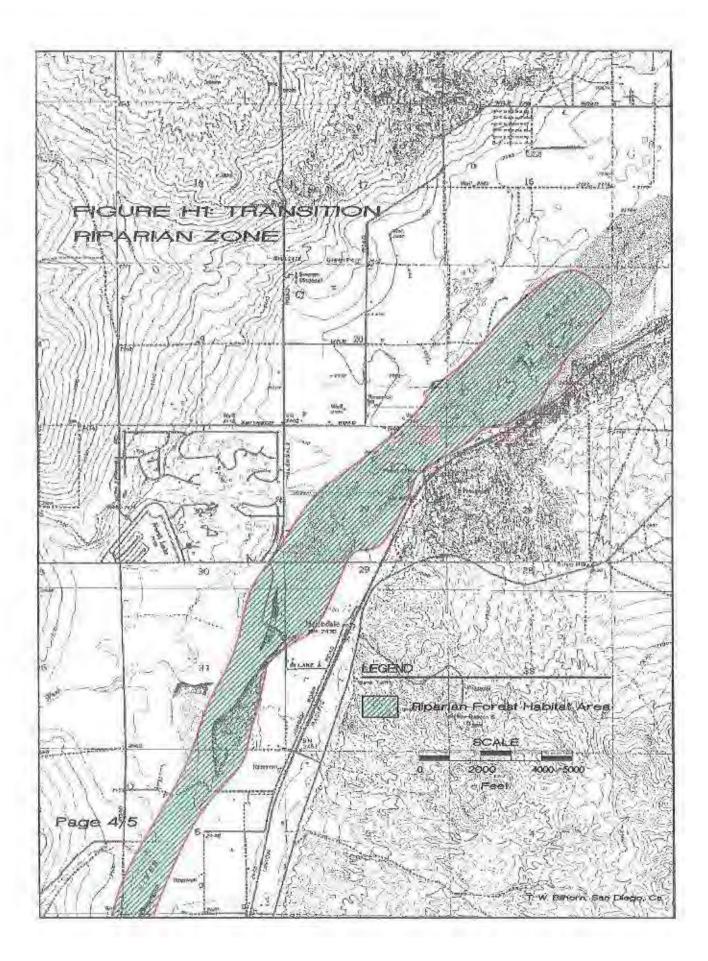
ZONE	WELL NUMBER	MAXIMUM DEPTH BELOW GROUND				
Victorville/Alto	H1-1	Seven (7) Feet				
Victorville/Alto	H1-2	Seven (7) Feet				
Lower Narrows/Transition	H2-1	Ten (10) Feet				
Harvard/Eastern Baja Riparian Forest Habitat	H3-1	Seven (7) Feet				
Harvard/Eastern Baja Surface Water Habitat	H3-2	Plus One (1) Foot (1705 Ft msi)*				

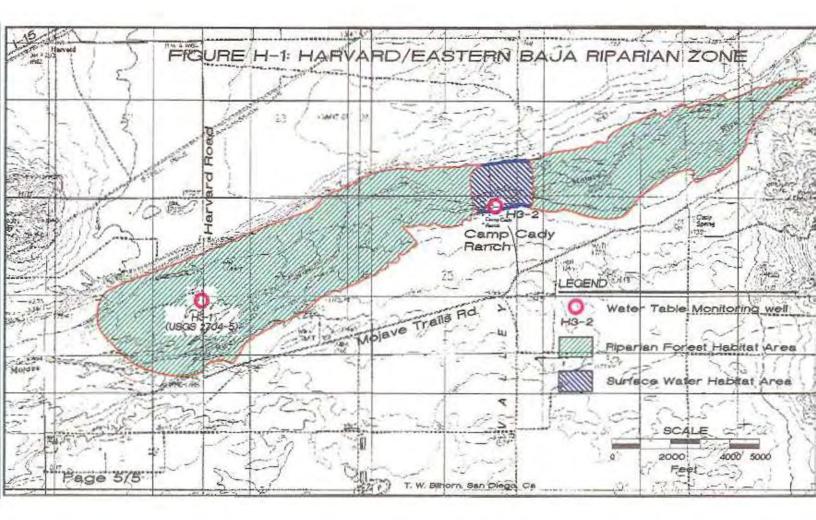
* Surface Water Habitat water surface elevation of 1705 ft. msl is approximate pending ground elevation survey.











ATTACHMENT E

2024 Decl. of Aaron Johnson, Attachment E

TABLE C-1 Mojave Basin Area Adjudication Subarea Hydrological Inventory Based On Long-Term Average Natural Water Supply and Oulflow and Current Year Imports and Consumptive Use (All Amounts in Acre-Feet)

WATER SUPPLY Surface Water Inflow	Este	Qeste	Alto	Centro	Baja	Basin Totala
Gaged	0	0	65,000	0	0	65,000
Ungaged	1,700	1,500	3,000	37,300	14,300	6,500
Subsurface Inflow	1,700	0	1,000	2,000	1,200	0,000 1
Deep Percolation of Precipitation	õ	ő	3,500	0	100	3,600
Imports		2	5,500		100	5,000
Lake Arrowhead CSD	0	0	1,500	0	0	1,500
Big Bear ARWWA	2,000	0	0	0	0	2,000
TOTAL	3,700	1,500	74,000	39,300	15,600	78,600
CONSUMPTIVE USE AND OUTFLOW		ne	12		0	
Surface Water Outflow Gaged	n AL	2)/10_	Lo.	d.	N 8.200	8,200
Ungaged	110/11/0/17	10-	37,300	-14.000	1100) 0
Subsurface Outflow	11:11 200 1	800	2,000//	15001	NICO	0
Consumptive Use	111/10		11111	1111	V	
Agriculture	11 8,800	2.900	16,100	29,300	30,200	76,500
A 111	1,900	10200	36,300	9,500	9,700	58,600
Phreatophytes Exports	- (1 1)°	128	5,1001	900	1,500	7,500
TOTAL	1 14,300	4,900	97,000	45,900	49,600	150,800
Surplus / (Defjcit)	1 3,2001	(3.400)	(000 EC)	(6,600)	(34,000)	(72 200)
Total Estimated Producting (Current Vert	15,700		(23,000)			(72,200)
Total Estimated Production (Current Year)	15,700	7,600	98,900	46,500	54,300	223,000
PRODUCTION SAFE VIELD (Cartent Vear)	10,500	4,200	75,900	39,900	20,300	150,800

Estimated from reported flows at USOS gaging station, Mojave River at Victorville Narrows.

Includes 14,000 scre-feet of Mojave River surface flow across the Waterman Fault estimated from reported flows at USGS gaging station, Mojave River at Barstow, and 300 scre-feet of local surface inflow from Kane Wash.

Represents the sum of Este (1,700 af), Oeste (1,500 af), Alto (3,000 af) and Baja (300 af from Kane Wash).

Inter subarea subsurface flows do not accrue to the total basin water supply.

Estimated from reported flows at USGS gaging station, Mojave River at Barstow.

Estimated by Bookman-Edmonston.

For purposes of this Table, the current year is 1990.

HANSON-MWA1269E WK4

SAMPLE CALCULATION - Junuary 23, 1995

DECLARATION OF SERVICE BY E-MAIL AND OVERNIGHT COURIER

Case Name: City of Barstow v. City of Adelanto, et al. Case No.: CIV208568 (Lead)

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter; my business address is: 300 South Spring Street, Suite 1702, Los Angeles, CA 90013-1230. I am familiar with the business practice at the Office of the Attorney General for collection and processing of correspondence for overnight mail with the Federal Express courier service. In accordance with that practice, correspondence placed in the internal mail collection system at the Office of the Attorney General is deposited with the overnight courier that same day in the ordinary course of business.

On May 21, 2024, I served the DECLARATION OF AARON JOHNSON IN SUPPORT OF THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE'S RESPONSE TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION ALLOWANCE FOR **THE 2024-2025 WATER YEAR** by transmitting a true copy via electronic mail. In addition, I placed a true copy thereof enclosed in a sealed envelope, in the internal mail system of the Office of the Attorney General, for overnight delivery, addressed as follows:

> William J. Brunick, Esq. Leland P. McElhaney, Esq. Brunick, McElhaney & Kennedy PLC 1839 Commercenter West San Bernardino, CA 92423-3130 E-Mail: bbrunick@bmklawplc.com E-Mail: lmcelhaney@bmklawplc.com Attorneys for Defendant/Cross-Complainant Mojave Water Agency

Valerie Wiegenstein Jeffrey D. Ruesch Watermaster Services Managers Mojave Water Agency 13846 Conference Center Drive Apple Valley, CA 92307-4377 E-Mail: vwiegenstein@mojavewater.org E-Mail: jruesch@mojavewater.org

I declare under penalty of perjury under the laws of the State of California and the United States of America, the foregoing is true and correct and that this declaration was executed on May 21, 2024, at Los Angeles, California.

Beatriz Davalos

Declarant

Beatriz Davalos Signature

PROOF OF SERVICE

STATE OF CALIFORNIA } COUNTY OF SAN BERNARDINO}

I am employed in the County of the San Bernardino, State of California. I am over the age of 18 and not a party to the within action; my business address is 13846 Conference Center Drive, Apple Valley, California 92307.

On May 22, 2024, the document(s) described below were served pursuant to the Mojave Basin Area Watermaster's Rules and Regulations paragraph 8.B.2 which provides for service by electronic mail upon election by the Party or paragraph 10.D, which provides that Watermaster shall mail a postcard describing each document being served, to each Party or its designee according to the official service list, a copy of which is attached hereto, and which shall be maintained by the Mojave Basin Area Watermaster pursuant to Paragraph 37 of the Judgment. Served documents will be posted to and maintained on the Mojave Water Agency's internet website for printing and/or download by Parties wishing to do so.

Document(s) filed with the court and served herein are described as follows:

DECLARATION OF AARON JOHNSON IN SUPPORT OF THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE'S RESPONSE TO WATERMASTER'S MOTION TO ADJUST FREE PRODUCTION ALLOWANCE FOR THE 2024-2025 WATER YEAR

 \underline{X} (STATE) I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on May 22, 2024 at Apple Valley, California.

And

Jeffrey D. Ruesch

Mojave Basin Area Watermaster Service List as of May 22, 2024

Attn: Roberto Munoz 35250 Yermo, LLC 11273 Palms Blvd., Ste. D. Los Angeles, CA 90066-2122

(adesdevon@gmail.com) Ades, John and Devon (via email)

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Mojave Basin Area Watermaster Service List as of May 22, 2024

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Mojave Basin Area Watermaster Service List as of May 22, 2024

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Mojave Basin Area Watermaster Service List as of May 22, 2024

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Attn: Donald F. Hanify Hanify, Michael D., dba - White Bear Ranch PO BOX 1021 Yermo, CA 92398-1021

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Mojave Basin Area Watermaster Service List as of May 22, 2024

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Attn: Carabeth Carter () Hettinga Revocable Trust (via email) P. O. Box 455 Ehrenberg, AZ 84334-0455

Attn: Robert W. Bowcock High Desert Associates, Inc. 405 North Indian Hill Blvd. Claremont, CA 91711-4614

Attn: Frank Hilarides Hilarides 1998 Revocable Family Trust 37404 Harvard Road Newberry Springs, CA 92365

Ho, Ting-Seng and Ah-Git P.O. Box 20001 Bakersfield, CA 93390-0001

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Attn: Ester Hubbard Hubbard, Ester and Mizuno, Arlean 47722 Kiloran St. Newberry Springs, CA 92365-9529

Attn: Ralph Hunt Hunt, Ralph M. and Lillian F. P. O. Box 603 Yermo, CA 92398-0603 Hensley, Mark P. 35523 Mountain View Rd Hinkley, CA 92347-9613

Attn: Jeremy McDonald (jmcdonald@cityofhesperia.us) Hesperia Water District (via email) 9700 7th Avenue Hesperia, CA 92345-3493

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Attn: Katherine Hill (Khill9@comcast.net) Hill Family Trust and Hill's Ranch, Inc. (via email) 84 Dewey Street Ashland, OR 97520-

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Attn: Magdalena Jones (mygoldenbiz9@gmail.com) Jones Trust dated March 16, 2002 (via email) 35424 Old Woman Springs Road Lucerne Valley, CA 92356-7237

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Attn: Richard Koering Koering, Richard and Koering, Donna 40909 Mountain View Road Newberry Springs, CA 92365-9414

Attn: Nancy Lan Lake Waikiki 230 Hillcrest Drive La Puente, CA 91744-4816

Mojave Basin Area Watermaster Service List as of May 22, 2024

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Attn: Carin McKay Precision Investments Services, LLC 791 Price Street, #160 Pismo Beach, CA 93449-2529

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Mojave Basin Area Watermaster Service List as of May 22, 2024

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Price, Donald and Ruth 933 E. Virginia Way Barstow, CA 92311-4027

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Attn: Sean Wright (swright@pphcsd.org; dbartz@pphcsd.org; llowrance@pphcsd.org) Phelan Piñon Hills Community Services District (via email) 4176 Warbler Road Phelan, CA 92371-8819

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Attn: Dale W. Ruisch Ruisch Trust, Dale W. and Nellie H. 10807 Green Valley Road Apple Valley, CA 92308-3690

Attn: Sara Fortuna (sarajfortuna@gmail.com; fourteengkids@aol.com) Saba Family Trust dated July 24, 2018 (via email) 212 Avenida Barcelona San Clemente, CA 92672-5468

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Attn: Jared Beyeler (ssamaras@sdd.sbcounty.gov; jbeyeler@sdd.sbcounty.gov; waterquality@sdd.sbcounty.gov) San Bernardino County Service Area 42 (via email) 222 W. Hospitality Lane, 2nd Floor San Bernardino, CA 92415-0450

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Attn: Bill Taylor or Property Mngr (billt@rrmca.com) Robertson's Ready Mix (via email) 200 S. Main Street, Suite 200 Corona, CA 92882-2212

Attn: Sam Marich Rue Ranch, Inc. P. O. Box 133109 Big Bear Lake, CA 92315-8915

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