STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

Revised Report of Investigation, INV 8217

Nestle Waters North America
Arrowhead Facility, San Bernardino National Forest

Regarding complaint about water diversions from the Strawberry Creek watershed in San Bernardino County

Facility Owner Information:
Name: Nestle Waters North America Inc.
Address: 5772 Jurupa Street, Ontario, CA 91761

Property Information:
Location: San Bernardino National Forest, Arrowhead Ranger District
County: San Bernardino

Revised Date: April 8, 2021 (Original Report Date: December 20, 2017)

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Respondents: Nestle Waters North America, Inc.
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Ontario, CA 91761

Agent: Larry Lawrence
Natural Resource Manager
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Strawberry Creek, San Bernardino National Forest

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ABBREVIATIONS AND ACRONYMS

AF	Acre-feet
AFA	Acre-feet per annum
ASC	Arrowhead Springs Company or Arrowhead Springs Corporation
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CCWC	California Consolidated Water Company
Del Rosa	Del Rosa Mutual Water Company
Division	Division of Water Rights
DWR	Department of Water Resources
Forest Service	United States Forest Service
Hotel	Arrowhead Springs Hotel
Judgment	Del Rosa Judgment
LADBS	Los Angeles Department of Building and Safety
NEPA	National Environmental Policy Act
Nestlé	Nestlé Waters North America
Notice	Notice of Extraction and Diversion of Water
NWNA	Nestlé Waters North America
OE	Office of Enforcement
PE	Pacific Electric
POD	Point of Diversion
PRISM	Parameter-elevation Regressions on Independent Slopes Model
SBVMWD	San Bernardino Valley Municipal Water District
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
Statement	Statement of Water Diversion and Use

1 COMPLAINT

The State Water Resources Control Board (State Water Board or SWRCB), Division of Water Rights (Division) received several water rights complaints against Nestlé Waters North America (Nestlé or NWNA) starting on April 20, 2015. The complaints contain many allegations, including diversion of water without a valid basis of right, unreasonable use of water, injury to public trust resources, and incorrect or missing reporting. The following table summarizes the complaints received to date:

Table 1. Water Rights Complaints

Complainant	Date	Allegations
Caleb Lieski	April 20, 2015	Diversion with expired permit during time of drought
Nancy Eichler	July 6, 2015	Diverting during extreme drought without review/oversight
Anonymous	September 21, 2015	Rights not passed from predecessor to Nestlé, lack of reporting under CASGEM, incorrect ownership information in eWRIMS
Anonymous	April 22, 2016	Legal "pilfering" of water
Amanda Frye	May 6, 2016	Rights not passed from predecessor to Nestlé, incorrect ownership information in eWRIMS
500 individuals	May 11-16, 2016	Bottling and export of water during drought (petition signatures faxed to State Water Board)
Steve Loe, Southern California Native Freshwater Fauna Working Group	June 3, 2016	Diversion without basis of right, injury to beneficial uses of water, injury to listed species
The Story of Stuff Project	September 28,	Unauthorized diversion, harms public trust resources

Additionally, Jody Noiron, Forest Supervisor for the United States Forest Service (Forest Service), San Bernardino National Forest, requested assistance with clarifying Nestlé's basis of right by letter dated May 20, 2016 (San Bernardino National Forest Supervisor's Office, 2016).

While several of the complaints emphasized the potential impacts of Nestlé's diversions on water supplies and public trust resources during the drought, the major issues regarding Nestlé's right to divert water are not drought specific. Consequently, drought impacts were not specifically evaluated as part of the complaint investigation.[1]

A review of Division records indicated that Arrowhead Drinking Water Company (a predecessor of Nestlé) is the owner of 12 groundwater recordations in the Strawberry Creek watershed, north of San Bernardino, CA. Division enforcement staff contacted Larry Lawrence,

[1] Drought impacts are better addressed as part of an evaluation of public trust impacts. Future evaluation of public trust impacts is addressed in Section 2 and Section 4.6.3.

Natural Resources Manager for Nestlé, on December 23, 2015 and subsequently emailed an initial request for information on January 22, 2016.

A Report of Investigation was issued on December 20, 2017 (2017 ROI), and public comments on the ROI were accepted until February 9, 2018.

2 BACKGROUND

Nestlé operates a spring water diversion facility at the headwaters of Strawberry Creek in the San Bernardino National Forest. The Forest Service issued a series of Special Use Permits (SUPs) to Nestlé and predecessors starting in 1929 (Maguire, Pearce & Storey, PLLC, 2016c). On August 2, 1978, the Forest Service issued a SUP to Arrowhead Puritas, Inc. for "maintaining thereon water transmission lines, necessary service trails to maintain pipelines and water collection tunnels, horizontal wells, and spring boxes" (US Forest Service, 1978). The 1978 SUP was amended on June 24, 1981, adding an expiration date of August 2, 1988. Between 1978 and 2011, several additional SUP applications were denied, including on the basis that additional water development in the general area was not "in national forest interest," and the water being taken would not be "surplus to present and future public needs."[2] In early 2015, The Desert Sun Newspaper began investigating Nestlé's ongoing diversions under the expired SUP (James, 2015). The article and subsequent follow-up articles were re-published through several news outlets and were highly visible on social media. Several online petitions organized via MoveOn and The Courage Campaign collected thousands of signatures urging the Forest Service, State, and Federal Government to end Nestlé's diversion of water from the San Bernardino National Forest.[3] As a result of the complaints and due to repeated media and private citizen inquiries, the Division determined that an investigation into the basis of right and possible public trust injuries was appropriate.

On October 15, 2015, the Center for Biological Diversity, the Story of Stuff Project, and the Courage Campaign filed a complaint against the US Forest Service for declaratory and injunctive relief in the US District Court, Central District of California, Eastern Division, requesting the court to issue an injunction to "prohibit operation or modification of the West Strawberry Diversion Structure unless and until a valid special use permit authorizing such action is in effect," among other requests (Center for Biological Diversity, et al. v. US Forest Service, et al., 2015).[4] On September 20, 2016, the court dismissed the plaintiffs' action with prejudice by denying the plaintiffs' Motion for Summary Judgment and granting the defendant's Motion for Summary Judgment on the grounds that the SUP is still valid.[5] The decision was appealed to the US Court of Appeals 9th Circuit, but settled on June 6, 2018 after the US

[2] *Arrowhead Water: OIG audit 2008*, a slide presentation received from complainant on January 29, 2018
[3] See MoveOn.org petitions regarding Nestlé and The Courage Campaign petitions regarding Nestle
[4] *Center For Biological Diversity v. United States Forest Service* (2015 WL 5949194)
[5] *Center For Biological Diversity v. United States Forest Service* (2016 WL 5334474)

Forest Service agreed to promptly issue a decision either granting or denying a special-use permit for Nestlé's operation.

As part of the SUP re-issuance process, the Forest Service initiated a National Environmental Policy Act (NEPA) analysis (San Bernardino National Forest, 2016). The Division submitted a comment during the public scoping period indicating that the Forest Service should require Nestlé to identify its basis of right, and that studies and plans proposed by the Forest Service should indicate if Nestlé's diversions impact public trust resources so that Nestlé can address these impacts (State Water Board, 2016). On June 1, 2016, Division enforcement staff met with Forest Service staff to discuss the Division's comment provided during the NEPA scoping period

On June 27, 2018, the Forest Service issued a decision[6] to authorize continued occupancy and use of Forest Service lands for the extraction and transmission of water using existing improvements, subject to resource mitigation measures designed to ensure compliance with the San Bernardino National Forest Land Management Plan (LMP). The decision concluded the Forest Service's review of Nestlé's application for a new SUP. According to the decision memo, Nestle's decision to either accept and sign the 2018 SUP, or reject it by not signing, would terminate the prior SUP.

2.1 Santa Ana River Watershed

Strawberry Creek, within a canyon locally known as Strawberry Canyon, is tributary to East Twin Creek, thence the Santa Ana River. The Santa Ana River is the largest stream system in Southern California and covers about 2,700 square miles (US Geological Survey, 2016b). The watershed extends from Big Bear Lake to the Pacific Ocean and from San Antonio Creek in the San Gabriel Mountains to the west to Bautista Creek and the San Jacinto River in the San Jacinto Mountains to the east. Important reservoirs in the watershed include Big Bear Lake, Prado Reservoir, Lake Perris, Lake Elsinore, and Lake Matthews. Average precipitation ranges from 12 to 40 inches per year from the coastal plains to the San Bernardino Mountains (US Geological Survey, 2016b). Most of the precipitation in the San Bernardino region falls on the San Bernardino and San Gabriel Mountains, and streams issuing from the mountains supply most of the groundwater recharge to basins in the San Bernardino area (Dutcher & Garrett, 1963).

Diversions of surface water and groundwater in the Santa Ana River watershed are subject to the regulatory authority of the State Water Board in six ways:

1. Diversions from surface streams and from subterranean streams flowing through known and definite channels are subject Division 2 of the Water Code and thus subject to the permitting authority of the State Water Board, unless diverted under a valid riparian, pre-1914, or other valid basis of right;
2. Diversions from surface streams and from subterranean streams flowing through known and definite channels under a valid riparian, pre-1914, or other basis of right must be

[6] US Forest Service Decision Memo reference, June 27, 2018 transmittal letter, memo, and Appendix 1

reported annually to the State Water Board by submitting a Statement of Water Diversion and Use (Statement)[7].

3. Groundwater extractions of greater than 25 acre-feet per annum (AFA) in Riverside, San Bernardino, Los Angeles, and Ventura counties are subject to the Groundwater Recordation Program.

4. All water in the State is subject to the State Water Board's authority to prevent the waste and unreasonable use of water.

5. Groundwater basins within the watershed are subject to the 2014 Sustainable Groundwater Management Act (SGMA), and high and medium priority basins which do not form Groundwater Sustainability Agencies by July 1, 2017 are subject to intervention by the State Water Board.

6. The public trust doctrine recognizes that "the sovereign owns all of its navigable waterways and the lands lying beneath them "as trustee of a public trust for the benefit of the people."[8] The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible."[9] The protection of recreational and ecological values "is among the purposes of the public trust.[10] The public trust doctrine applies if extraction of groundwater adversely impacts a navigable waterway to which the public trust doctrine does apply.[11]

All groundwater basins in the watershed are also subject to the California Statewide Groundwater Elevation Monitoring Program (CASGEM) administered by the Department of Water Resources (DWR), which requires groundwater elevation monitoring by local parties. Additionally, surface water and/or groundwater rights are adjudicated in the following court Judgments: Beaumont Basin, Chino Basin, Cucamonga Basin, Lytle Basin, Rialto-Colton, San Jacinto, Six Basins, and the Western San Bernardino Adjudication (includes San Bernardino, Riverside, and Colton Basins).

Issuance of new permits for diversion of surface and subterranean streamflow within the Santa Ana River watershed has been limited by the State Water Board since 1964, when Decision 1194 (1964) recognized that no water is available for further appropriation from the Santa Ana River. The Santa Ana River was declared a fully appropriated stream system in Water Rights Order 98-08 (1998). The order declares that the Santa Ana River and all upstream sources are fully appropriated year-round, and that water right applications will not be accepted unless the application demonstrates that water is available (i.e. developed water, salvage water) or that use is non-consumptive. In Orders WR 2000-

[7] Unless the diversion is excluded under Water Code §5101, subdivision (a) through subdivision (g).
[8] *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 434.
[9] *Id.* at p. 446.
[10] *State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 777.
[11] *Environmental Law Foundation v. State Water Resources Control Bd.* (2018) 26 Cal.App.5th 844, 858-859.

12 and WRO-2002-0006, the State Water Board acted on petitions to revise the Declaration of Fully Appropriated Streams, finding that specified water right applications could be processed. However, the findings are narrow, and do not alter the conclusions of Decision 1194 regarding future appropriations.

3 INVESTIGATION

The investigation included collecting and reviewing information and data from various sources. These sources, and the information and data obtained, are described below. The information and data were then analyzed as presented in Section 4.

3.1 Pre-Inspection Investigation

Division enforcement staff contacted the following individuals to obtain information regarding Nestlé's diversions in the Strawberry Creek watershed:

- Douglas Headrick, San Bernardino Valley Municipal Water District (SBVMWD)
- Larry Lawrence, Natural Resources Manager, Nestlé
- Robert Taylor, Forest Hydrologist, US Forest Service, San Bernardino National Forest
- Rita Maguire, Esq., Maguire, Pearce & Storey, PLLC, representing Nestlé

Discussions with parties above are detailed in the following sections.

In addition to the issues raised by the complainants, the investigation focused around two main questions: (1) whether the water diverted by Nestlé is within the permitting authority of the State Water Board if not diverted under a riparian or pre-1914 basis of right, and (2) whether Nestlé has a valid pre-1914 water right or other valid basis of right. Division enforcement staff reviewed Division records, records provided by SBVMWD, records and reports provided by involved parties, county building permits, reports available online, and newspaper records. Records were reviewed to determine amounts of water diverted and used, places of use, seasons of use, year of first use, year of first appropriation, methods of diversion, and bases of right. Hydrological reports were reviewed to determine if water diverted is within the permitting authority of the State Water Board. Additionally, Division enforcement staff performed a site inspection to locate the points of diversion, observe the methods of diversion, and discuss site hydrology with Nestlé staff and consultants and Forest Service scientists. Section 3.3 is the inspection narrative.

3.1.1 Groundwater Recordations

The Water Recordation Act of 1955 required all persons who extract more than 25 acre feet of groundwater in Riverside, San Bernardino, Los Angeles, and Ventura counties to file a Notice of Extraction and Diversion of Water (Notice).[12] At the beginning of the

[12] Persons subject to the Water Recordation Act were also required to provide information on surface water diversions in annual Notices, but information regarding extraction or diversion of groundwater or surface water from a single source of less than 10 AFA is not required.

Groundwater Recordation Program, the initial Notice was required in 1957 and was to include the quantity of water taken annually for the previous 10 years (1947-1956). Annual Notices are required for subsequent years after the initial Notice. Under the Groundwater Recordation Program, failure to file an annual Notice for a given year after 1959 is equivalent to non-use for that year (Water Code §5004). Diversions of surface water must also be reported by anyone filing a Notice (Water Code §5002), but diverters are not required to specify how much of the water diverted is groundwater or surface water. For the purposes of the Groundwater Recordation Program, "ground water" is defined as "water beneath the surface of the ground whether or not flowing through known and definite channels." (Water Code §5000, subd. (a)).

Reporting is not required in annual Notices for diversions that are less than 10 acre-feet from a single source. In 2006, the State Water Board delegated authority to several local water agencies and water districts to collect the annual Notices and administer the recordation program. The local agency for the Strawberry Creek area is the SBVMWD.

A review of Division records indicates that 12 groundwater recordations were submitted by Nestlé's predecessors for diversions in San Bernardino County. Groundwater recordation numbers and owner's designations for all Strawberry Creek Points of Diversion (PODs)[13] are listed in Table 2. Six of the Arrowhead Drinking Water Company recordations (Spring Tunnels 2, 3, and Boreholes 1, 7A, 7B, and 8) were initially filed in 1957. These recordations list dates "dug" from 1930 to 1950 and describe the PODs as springs. Four recordations (Boreholes 7 [G362857], 10, 11, and 12) were initially submitted in the 1980's. Of the remaining two recordations, the file for Spring Tunnel 7 [G360479] noted that extractions ceased in 1950, and the initial filing for Borehole 7C is lost. The POD locations for the groundwater recordations are not within the Western San Bernardino adjudicated basin area or within the Upper Santa Ana Valley groundwater basin. The Upper Santa Ana Valley groundwater basin is included under the CASGEM program[14] and is a High Priority Basin subject to SGMA. Since Nestlé's PODs are not within the Upper Santa Ana Valley groundwater basin, the diversions from Nestlé's PODs are not subject to these regulatory programs. Seven groundwater recordations located near the old Arrowhead Springs Hotel (Hotel) were submitted by the similarly named Arrowhead Water & Power, which is not affiliated with Nestlé. Six of the seven recordations are not relevant to this investigation. One recordation, G36-1811 is for the surface water diversion originally undertaken by the Del Rosa Mutual Water Company (Del Rosa) and discussed later in this report.

As stated above, the State Water Board delegated oversight of the Groundwater Recordation Program in some areas to local agencies in 2006. While Strawberry Creek is not in the Western San Bernardino Basin Adjudication, the SBVMWD is the local

[13] Documents produced by Nestlé from the 1950's refer to the PODs as springs, borings, and/or wells. For this report, all PODs where a tunnel was installed at the spring are referred to as "spring tunnels" and PODs where a boring and horizontal well were installed at the spring are referred to as "boreholes". Spring Tunnel 7 and Boreholes 7, 7A, 7B, and 7C together are referred to as the Spring 7 Complex.

[14] Map layers for the adjudicated basin and CASGEM basins are viewable at https://gis.water.ca.gov/app/gicima/.

oversight agency for Strawberry Creek groundwater recordations. Division enforcement staff contacted Douglas Headrick of SBVMWD on December 21, 2015. Mr. Headrick provided annual extractions reported by Nestlé and predecessors from 1947 through 2014. Additional annual extractions reported for 2015-2018 were later obtained from SBVMWD. Annual groundwater extractions for the Arrowhead Facility ranged from 11 acre-feet (AF) in 1989 to 506 AF in 1998.[15] The average annual extraction was 189 AF from 1947 through 2018. Annual extractions from each spring tunnel or borehole are shown in Figure 1. For comparison, the average annual streamflow through the USGS East Twin Creek Gauge downstream of the old Arrowhead Springs Hotel was 3,681 AF per year from 1920 through 2014.[16] Annual streamflow totals and spring production are shown in Figure 2. The installation with the most water extracted cumulatively from 1947 is Spring Tunnel 2 with 4,285 AF extracted from 1947 through 2018, and the installation with the least water extracted was Spring 7 (G360479) with 116 AF extracted from 1947 to 1950.

3.1.2 Well (Borehole) Completion Reports

Well completion reports available either from DWR[17] or Nestlé[18] indicate that most of the Nestlé PODs are horizontal boreholes completed in fractured bedrock, from 120 to 495 feet horizontally into the hillside. Completion reports are not available for Spring Tunnels 2, 3, and 7. Geologic logs on the completion reports submitted by Nestlé indicate that borings were installed in mostly "medium and hard [rock]" with some clayey zones or fractured zones. The estimated yield reported on the borehole completion reports ranged from eight to 100 gallons per minute (gpm). The annular space near the surface of each borehole is grouted to provide a sanitary seal, and the seals range from 66 to 167.5 feet long horizontally.

Overburden (e.g. topsoil and/or loose rock) was generally less than 10 feet thick and would have been sealed off from the screened intervals.

3.1.3 Information from Nestlé

Division enforcement staff spoke with Larry Lawrence of Nestlé on December 23, 2015 by phone. Mr. Lawrence described two water tunnels and the horizontal boreholes at the site. He said that several of the horizontal borings were modified or replaced in the 1970's and/or 1990's and that most water diverted today is sourced from the horizontal boreholes. Mr. Lawrence said that litigation in the 1930's proved the Arrowhead water right.[19] Division enforcement staff sent Mr. Lawrence a request for information via email

[15] The minimum diversion in 2004 was likely due to the Old Fire, which destroyed Nestlé's pipelines and infrastructure in late 2003. No diversions were reported in 1989.
[16] USGS gauge 1105850 (US Geological Survey, 2017). Annual flows calculated from mean daily CFS. Data were not screened by Division enforcement staff for completeness, so actual flows may have been greater.
[17] Request form available at http://www.water.ca.gov/groundwater/wells/well_completion_reports.cfm
[18] Three well logs provided by Nestlé's attorney were not provided by DWR. One well log provided by DWR was not provided by Nestlé's attorney.
[19] Nestlé's refers to its water rights as the Arrowhead Water Rights.

on January 22, 2016 asking for GPS coordinates, borehole completion reports, reconciliation of orphan groundwater recordation numbers in Division records, and explanation of the 1930's litigation with a copy of the court's decision. Mr. Lawrence responded on March 11, 2016 and provided the requested information. GPS coordinates are used in Figure 3. Borehole construction information such as total depth is provided in Table 3. Nestlé's attorney provided a copy of the Del Rosa Judgment (Judgment) (Del Rosa Mutual Water Company vs. Carpenter et al., 1931) decided in the San Bernardino County Superior Court. Nestlé's attorney wrote in the response to the Division's request for information,

> NWNA [Nestlé Water North America] has the clear right to capture and use the waters in Strawberry Creek pursuant to *Del Rosa* for its current bottling operations. NWNA has the valid pre-1914 surface water rights of its predecessors-in-interest including the Arrowhead Springs Corporation and California Consolidated Water Company. To the extent that any water captured by NWNA could be classified as groundwater…, the specific wording of *Del Rosa* adjudicated the right to develop, capture, and use this water under California state law (NWNA, 2016a).

Two subsequent information requests were submitted to Nestlé's attorney, Rita Maguire of Maguire, Pearce & Storey PLLC. On April 20, 2016, Division enforcement staff requested documentation supporting the transfer of water rights from Nestlé's predecessors from the time of the Judgment to the present. Rita Maguire provided a chain of title on April 21, 2016. On May 4, 2016, Division enforcement staff requested clarification of the underlying bases of rights of the parties involved in the Judgment. Division enforcement staff subsequently scheduled a site inspection for June 15, 2016 and a meeting with Nestlé staff and representatives to discuss bases of right on June 16, 2016. See below, Section 3.3, for the inspection narrative.

3.1.4 Information from United States Forest Service, San Bernardino National Forest

Division enforcement staff spoke with Robert Taylor of the Forest Service on January 25, 2016 regarding the Nestlé points of diversion, basis of right, the status of Nestlé's SUP renewal application, and litigation against the Forest Service. Mr. Taylor said that the PODs for springs 2 and 3 are probably small adits constructed in the 1930's. He said that the other springs were tapped by horizontal boreholes without pumps. Division enforcement staff asked about the POD for the Forest Service water right adjacent to the Nestlé PODs, and Mr. Taylor said that the Forest Service visited the site in December 2015 and were unable to find the spring associated with the Forest Service water right. Regarding the Judgment, Mr. Taylor said that prior to the 1920's, water was taken from lower down on the stream, but that the adjudication allowed Nestlé's predecessor to take water from the current location higher in the watershed. Additionally, Mr. Taylor said that the NEPA process was initiated as part of the issuance of the 2018 SUP, but that the Forest Service is being sued. He said that Forest Service may require a comparative study to determine the impacts of Nestlé's diversions on the

Strawberry Creek watershed, where the Strawberry Creek Watershed would be compared to one or more adjacent watersheds, as part of an Environmental Impact Study. Mr. Taylor provided a copy of the Judgment via email later the same day; however, the quality of the copy was poor and some pages were not legible.

3.2 Geology, Hydrogeology, and Geomorphology

Division enforcement staff reviewed geological reports with information relevant to the Strawberry Creek Watershed and surrounding San Bernardino Mountains. This included conducting a literature search for information on the geologic history and geomorphological development of the San Bernardino Mountains. Division enforcement staff also downloaded and reviewed PDFs and shapefiles of the San Bernardino and Santa Ana 30' X 60' Quadrangles (Morton & Miller, 2006) to determine bedrock geology and fault locations. Division enforcement staff reviewed the Arrowhead Tunnels Project Special Uses Permit Geo-Sciences Specialist Report (US Forest Service, 2012) for information on the hydrogeology of the region.

The San Bernardino and Santa Ana quadrangles contain some of the most complex geology in the Western US (Morton & Miller, 2006). The San Bernardino Mountains are the easternmost extent of the Transverse Ranges geomorphic province. The bedrock is mostly comprised of granodiorite and quartz monzonite bedrock in several crustal blocks that have been lifted by multiple thrust fault systems (Binnie, S. A., Phillips, Summerfield, Fifield, & Spotila, 2010), including transpression (oblique slip) across the San Andreas Fault over the last two to three million years (Spotila, House, Blythe, Niemi, & Bank, 2002). Several lines of evidence suggest that the plateau surrounding Big Bear Lake, in the north-center of the range, was once contiguous with the Mojave Desert, and has been minimally reworked (Binnie, S. A., Phillips, Summerfield, Fifield, & Spotila, 2010). This differs from the southern blocks of the San Bernardino Mountains, characterized by steep valley-slope gradients and sharp drainage divides (Binnie, Phillips, Summerfield, & Fifield, 2007). Denudation rates (erosion leading to a reduction in relief as related to mountain building processes) in the southern blocks where mean slopes may exceed 30° appear to be controlled by channel incision resulting from uplift rate, rather than resulting from slope gradient (Binnie, Phillips, Summerfield, & Fifield, 2007). The rugged topography on the southern blocks does not display any pre-uplift topography (Binnie, Phillips, Summerfield, & Fifield, 2007), since it has been entirely reworked by channel incision due to uplift rates.

The geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles (Morton & Miller, 2006) indicates that the bedrock near the Nestlé boreholes and spring tunnels is the Mixed granitic rocks of Silverwood Lake and the Monzogranite of City Creek. These two bedrock units are intrusive, crystalline igneous rocks. Unit descriptions within the report indicate that both bedrock units are highly weathered. The Strawberry Creek channels and some tributary channels contain surficial talus or wash deposits. Landslide deposits are mapped on the eastern branch of Strawberry Creek and in the upper reaches of adjacent creeks to the west. The geological map shows several east-west oriented fault splays in the area associated with the Devil Canyon Fault.

Based on the geology of the area, groundwater in the San Bernardino Mountains near the Nestlé facilities results from infiltration of precipitation into the fractured and faulted

bedrock. Open fractures typically transmit groundwater, but faults usually act as barriers to groundwater flow due to clayey fault gouge that may accumulate on fault planes, although faults can act as flow conduits in some instances. The presence of groundwater is well-documented in the Arrowhead Tunnels Project Special Uses Permit Geo-sciences Specialist Report (US Forest Service, 2012). The Arrowhead East Tunnel was constructed between the City Creek and Strawberry Creek portals from 1998 to 2009 by the Metropolitan Water District as part of the Inland Feeder Project. This project required a US Forest Service SUP and the Forest Service conducted monitoring before, during, and after the construction of the steel-lined tunnel. The 2012 report, which largely focuses on hydrological impacts during tunnel construction, notes several instances of significant groundwater inflow encountered in proximity to known faults and lineaments and associated declines in groundwater heads and streamflow thousands of feet away from the tunnel in some areas. The report also notes that groundwater storage and permeability are primarily fault controlled, and that flows are dependent on interconnected fractures and faults. Generally, in the Arrowhead East Tunnel area, east-west trending faults are barriers to groundwater flow and north-south trending faults transmit flows (US Forest Service, 2012). East-west faults are reverse or thrust faults accommodating compressive forces, and north-south faults are normal faults accommodating extension (US Forest Service, 2012).

The Arrowhead East Tunnel was bored through Borea Canyon and Little Sand Canyon, which are comprised of quartz monzonite (US Forest Service, 2012) identified as the Monzogranite of City Creek (Morton & Miller, 2006), which is also mapped in the vicinity of Nestlé's PODs. The US Forest Service report noted significant groundwater inflow while boring through the areas. The report noted 400 gpm of flow into the tunnel when breaching the Borea Canyon-1 fault and subsequent decreases in well heads and surface water flows downgradient, to the extent that supplemental water was added to the surface stream to mitigate impacts. As mining progressed eastward, flow into the tunnel peaked at 600 gpm. Groundwater heads began to recover once the sealed tunnel extended past the Borea Canyon fault zone. A similar situation was encountered when mining through the Little Sand Canyon fault zone and mitigation measures were also implemented in this watershed. Surface water impacts took several years to manifest at some sites in Little Sand Canyon. The report notes that during the 5 years and 9 months from the start of work at the Strawberry Canyon Portal to completion of the east tunnel (by tying into the City Creek section), 443.8 million gallons of groundwater were intercepted by the tunnel. This amount of water is equivalent to an average of 237 AF per year. Groundwater inflows to the tunnel ceased after grouting of the annular space and installation of the final steel liner, and mitigation with supplemental water continued at some sites into 2012. (US Forest Service, 2012).

3.3 Inspection Narrative

Natalie Stork and Victor Vasquez, Division enforcement staff, performed a site inspection on June 15, 2016, accompanied by Larry Lawrence and by Mike Nicholls of Haley & Aldrich, a consulting hydrogeologist working for Nestlé. After a safety briefing, the inspection party flew to the site via helicopter chartered by Nestlé, which is the only way to access sites 10, 11, and 12 due to the steep topography and thick forest growth. While

access to the other sites from Highway 18 is possible, it is not advisable due to the steep terrain and health and safety concerns. Coordinates recorded at all field sites visited during the inspection are shown in Figure 4.

The inspection party began at the Spring 7 Complex (Photo 1, see Appendix A for inspection photos), which houses the valve controls for Boreholes 7, 7A, 7B, and 7C. Flow meter consoles were visible on the interior wall, and solar panels were installed above the complex. Division enforcement staff observed four valved pipes coming out of the rear interior wall. Mr. Lawrence and Mr. Nichols explained that the flow meter displays are off to save power, but that flow is recorded approximately once per hour and sent to a server. No pumps or other power sources were visible, and a pipeline ran down the hill from the complex (Photo 2). Other pipes protruding from the hillside were cut (Photo 2). Mr. Lawrence and Mr. Nichols said that water is conveyed without pumps or siphons, and they explained the only controls are air brakes and pressure controls. They also pointed out the fault that runs approximately through the site, and said that when the valves on these boreholes were turned off temporarily in the 1990's, the old Spring Tunnel 7 above began flowing again, indicating that the fault acts as a groundwater barrier. They also said that the calculated expected flows do not add up to measured flow from the boreholes, indicating that there may be a delay between precipitation events, pressure buildup, and flow from the boreholes. They said that regular microparticulate analysis results always indicate "low probability" of surface water influence.

The party moved immediately uphill to Spring Tunnel 7. The site was overgrown and access to the front door was not safe. Mr. Lawrence and Mr. Nichols said that Spring Tunnel 7 was likely constructed on the spring, and the fault is mapped through the structure.

The party proceeded to the meadow area below by helicopter to visit sites 10, 11, 12, and the west branch of Strawberry Creek. From the helicopter, pipelines through the forest were visible (Photo 3). The party was joined by Forest Service staff also visiting these sites today. Mr. Lawrence and Nichols pointed out the location of Boreholes 11 and 12 (Photo 4). A solar panel was located nearby. The boreholes and associated pipes are reportedly buried and there was no evidence of their location at the meadow surface. Mr. Nichols said that very little flow comes from these boreholes. The pipes from Boreholes 11 and 12 ran through the vault housing Borehole 10. Flow meters were visible in the vault. Downgradient of the vault, on the west side of the streambed, a pipe was protruding between boulders (Photo 5), and Mr. Lawrence and Mr. Nichols referred to this as the "old boring 11" pipe. They said this may have been the original boring 11, and that it has not been used for an indefinite period of time. Water was not flowing from the pipe and it appeared to run downhill before it was cut off.

The inspection party walked along the streambed and observed streamflow in Strawberry Creek. Division enforcement staff located the seep at the toe of the meadow, which was the highest elevation streamflow observed at the time of inspection (Photo 6). Streamflow gained from seeps and springs along the streambed and flow was approximately five to 10 gpm by visual estimate at the first confluence (Photo 7) at the time of inspection. Mr. Lawrence and Mr. Nichols noted that a fault cuts across the canyon, which acts as a barrier to groundwater flow, causing groundwater to build up and seep out at the lower end of the

meadow. The inspection party proceeded back to the meadow. Division enforcement staff observed a small, dry channel cut across the meadow (Photo 8) as well as the west branch of Strawberry Creek channel along the east side of the meadow (Photo 9), also dry. The Strawberry Creek channel contained boulders (Photo 10) and vegetation.

Mr. Taylor of the Forest Service said he believes the mid-meadow channel is spring fed and disconnected from the branch of Strawberry Creek along the side of the meadow. Forest Service staff also noted that the meadow is clearly a dry meadow without evidence of animal habitation such as paths, tracks, or scat. California Bay Laurel trees predominated instead of willow, and willow would provide habitat for the Willow Flycatcher. Mr. Taylor also discussed the history of the water right held by the Forest Service, A006108, and said that he has not found the water right location.

The inspection party proceeded by helicopter to the third and final landing site, which provides access to Boreholes 1, 1A,and 8 and Spring Tunnels 2 and 3. On the way to Spring Tunnel 3, a health and safety incident occurred and Mr. Lawrence was evacuated from the site by helicopter. The inspection party decided not to proceed to Spring Tunnel 3 due to the hazard on the trail. After evaluation and mitigation of existing health and safety hazards, the inspection resumed. The inspection party visited the Spring Tunnel 2. The inside of the tunnel was lined with concrete slabs and was approximately 5.5 feet tall and five feet wide. A weir and ultrasonic water level measurement device for determining flow were visible (Photo 11). A side tunnel on the left was visible immediately behind the mount for the water level measurement device. Division enforcement staff observed a capped pipe below the weir and a second open pipe leading out of the tunnel (Photo 12). Mr. Nicolls explained that the capped pipe is used to drain the tunnel for maintenance work. Mr. Nicholls said that the back of the tunnel is not lined with concrete and water seeps through fractures exposed on the bedrock wall. He said that this tunnel is from the 1930's. When asked about the hydrogeology of the springs in this third area, Mr. Nicholls said that the conceptual model is slightly different for this site, because there is no apparent fault barrier and the flow from Boreholes 1, 1A,and 8 and Spring Tunnels 2 and 3 is too great to be fed by the topographical watershed alone.

Therefore, according to Mr. Nicholls, an interconnected fracture network may supply groundwater from outside of the topographical watershed.

The inspection party walked to Borehole 1, which was not visible because the vault was filled in with dirt (Photo 13), but the pipe from the vault lead down towards the Borehole 1A/8 site (Photo 14). An abandoned pipe filled with cement protruded from the slope next to the Borehole 1 vault. Due to access issues, only Mr. Nichols and one Division enforcement staff member proceeded to the vault for Boreholes 1A and 8. Division enforcement staff observed piping from the two boreholes inside the vault, as well as a pipe from Borehole 1. Back on the helicopter pad, the inspection party discussed isotopic evidence for groundwater water flow in fractures from outside of the topographical watershed. The inspection party left the site by helicopter. On the flight out, Division enforcement staff observed the location of the Borehole 3 vault (Photo 15), the location of the USGS gauging station (Photo 16), and the spreading basin where all East Twin Creek water is diverted for groundwater basin recharge (Photo 17). Division enforcement staff noted alternating gaining and losing reaches of the stream, including several dry reaches between the

meadow and the Arrowhead Springs property, which are commonly observed in natural stream systems in southern California.

3.4 Post-Inspection Investigation

3.4.1 License 1649 File Review

Division enforcement staff reviewed available records for License 1649 (A006108) currently held by the Forest Service. The original owner was the California State Department of Public Works, and the priority of right dates to October 31, 1928. The application was protested by the West Twin Creek Water Company in 1929 and the protest was subsequently withdrawn by the President of the water company after reviewing the results of a survey. The License allows for the diversion of 9,000 gallons per day for recreational use. Division records contain an inspection report for an inspection conducted by the Division's predecessor agency on June 5, 1935. Measured flows were equivalent to 8,640 gallons per day at the time of inspection. This flow was "understood to be slightly under maximum yield" according to the inspection report. The original POD was a concrete spring box, and water was transported 500 feet via pipeline under gravity to a hydrant and drinking fountains along the highway, and a further 1,200 feet to a public campground, or a rest stop in modern terms. The water was used for car radiators and for drinking. The inspection report estimated 8,000 cars per day stopped at this rest stop.

The license ownership was changed to the Forest Service in 1978, and the purpose of use was changed to fire protection and wildlife enhancement in 1985. Most of the annual reports do not quantify water diverted or used, but state that water was diverted year-round. The Forest Service began reporting amounts diverted in 2007. From 2007 to 2011, reported diversions were 10.1 AF per year (face value of the license). From 2012 to 2015, reported diversions were 0 AF per year. 2013 and 2014 reports indicated 9,000 gallons per day was the maximum diversion rate for each month. 2012 and 2013 reports included an explanation that the flow was unregulated and that it is assumed that the 10.1 AF of water was "kept in the system for enhancement of the habitat".

On December 9, 2016, Jody Noiron, Forest Supervisor, provided documentation of a site survey identifying the location and conditions at the POD for the Forest Service water right (US Forest Service, 2016). The ground at the spring site on October 19, 2016 was observed to be damp and there was no surface flow according to the survey.

Reported diversions since 2012 and comments in the 2012 and 2013 reports indicate that no water was diverted or put to beneficial use. Instream use does not require a water right, and instream use under a water right without an instream flow dedication (Water Code §1707) is considered non-use of a water right. Reported annual diversions were the exact license face value (10.1 AF) from 2007 to 2011, and there is no reliable information indicating that the spring was gauged or observed flowing since 2007. It is doubtful that diversions were reported accurately by the US Forest Service or that any diversions were ongoing.

In its January 19, 2018 letter, the Forest Service stated they had located the spring and begun collecting monthly spring measurements and stated that future records would be

more accurate (US Forest Service, 2018). However, in their March 16, 2018 license report for the 2017 water year, the Forest Service stated that a gage "is going to be added in 2018 so monthly measurements can be made." However, according to the 2018 annual report for License 1649 submitted in February 2019, Forest Service reported use of 2.79 AF of water and indicate in the report comments that Forest Service has not installed a measuring device but is instead conducting "random monitoring using the volumetric method." The Forest Service is reportedly holding discussions with Nestlé about whether Nestlé will install a meter and begin regular monitoring.

3.4.2 Historical Document Search

Division enforcement staff reviewed documents submitted by Nestlé and conducted internet searches for historical documents and newspaper articles describing the planning and/or construction of water bottling facilities and historical production of water extracted and bottled. Division enforcement staff also reviewed over 50 files submitted via email by the Complainants and other interested parties between June 14, 2016 and February 9, 2018. The files contained photos, historical documents, court documents from 1910 and 1912 lawsuits, contract documents, newspaper clippings, and business documents for incorporations, mergers, and sales of Nestlé's predecessors.

Figure 5 (Location Overview) and Figure 6 (Arrowhead Springs Hotel Area) contain features identified in the historical document search, including properties with water rights claimed by Nestlé, the line demarcated in the Judgment above which "any and all of the water of all springs situated or obtainable in… 'Strawberry Creek and Canyon'" was judged as belonging to Nestlé's predecessor, the location of the old Arrowhead Springs Hotel (San Buenaventura Research Associates, 2005)[20], the location of Indian Springs (File from Amanda Frye, 2016), and watersheds delineated using the US Geological Survey's StreamStats program (US Geological Survey, 2016a).

3.4.2.1 1909 Water Service Contract

One of the documents received from the public during the 2017 ROI comment period was a copy of a January 22, 1909 water service contract (1909 Contract) between the Arrowhead Hot Springs Company (AHSC), represented by its President, Seth Marshall, and James Mumford and C.H. Temple. The 1909 Contract, which was also partially described in the Nestlé's February 9 response to the 2017 ROI, provided for the following:

1) Mumford and Temple agreed to construct a pipeline at their own expense for carrying water from AHSC's reservoir[21] to the terminus of the electric rail line, either directly from the reservoir or from pipeline between the reservoir and other

[20] Division enforcement staff does not have any documents indicating the location of the Arrowhead Springs Hotel prior to 1931. The hotel was rebuilt several times after initial construction due to fires.

[21] The existence of the reservoir referred to in the 1909 Contract was unknown to Division enforcement staff at the time of the 2017 ROI. The size, location, and method of operation of this reservoir remains unknown.

AHSC facilities, to be completed within 6 months.[22]

2) AHSC would deliver sufficient water, through the prospective pipeline from its reservoir, to fill four train cars per week during the first three years of the 10-year agreement. During the remaining seven years, AHSC would deliver sufficient water through the pipeline to fill seven train cars per week. The train cars would then deliver the water to Mumford and Temple's bottling facility in Los Angeles, CA.[23]

3) The water was to be "derived from the same source as that from which said reservoir [was then] supplied, being that certain natural stream known as Cold Creek."[24] Based on a review of historical documents, Cold Creek, Cold Water Canyon, and Coldwater Creek all refer to the watercourse that flows from the canyon east of the "arrowhead" rock formation, while Hot Creek or Hot Water Canyon refer to the water flowing from the canyon west of the "arrowhead" formation.

4) Mumford and Temple were to be the exclusive vendors of drinking water appropriated from AHSC property, and insomuch as AHSC was contemplating the preparation and sale of mineral ("medicinal") water from the mineral springs at Arrowhead, and placing such water on the market off the AHSC property, AHSC agreed not to enter into any contract with any other party for the handling or marketing of such water, without first giving Mumford and Temple the option to take the contract under the same terms. The exclusivity and non-compete provisions included AHSC itself.[25]

According to Nestlé's February 9, 2018 correspondence, early 20th Century railcars had a capacity of approximately 15,000 gallons, so Nestlé estimated that the terms of AHSC's 10-year contract with Mumford and Temple would have obligated AHSC to provide 7.2 AFA of water through 1912, and 16.8 AFA through 1919.[26] However, more persuasive contemporaneous evidence indicates that the capacity of the tank cars used under the 1909 Contract was less than half (6,500 gallons) of the capacity used in Nestlé's estimate meaning that AHSC provided 4.15 AFA through 1912 and 7.26 AFA through 1919 based on the terms of AHSC's 1909 contract.[27]

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[22] 1909 Contract, paragraph 3, pages 1-2 (page 20-21 of Doughty comment)
[23] 1909 Contract, paragraph 3, pages 1-2 (page 20-21 of Doughty comment)
[24] 1909 Contract, paragraph 4, page 2 (page 21 of Doughty comment)
[25] 1909 Contract, paragraph 7, page 3 (page 22 of Doughty comment)
[26] Maguire Pearce & Storey; Preliminary Response to Report of Investigation; February 9, 2018
[27] Testimony of Frank McDonald on August 22, 1910; Statement on Motion for a New Trial, ASWC v. AHSC, filed in the San Bernardino County Superior Court on November 17, 1910; page 10 (line 24-26) and page 40 (line 10-17). This document was submitted by Amanda Frye in Frye Exhibit A30 (Arrowhead_1910_case_part_1_orders_minutes.pdf). According to Frank McDonald, Secretary and Treasurer of ASWC, the railcars used by ASWC in 1910 held 6,500 gallons and about four car loads per month were being delivered under the 1909 Contract. See Section 4.3.2 for an analysis of the impact of this information.

While Division enforcement staff reached different conclusions in the 2017 ROI based on the previously available information, the additional evidence submitted by Nestlé and others during the 2017 ROI comment period show that the execution of the 1909 Contract was the first indication that AHSC intended to appropriate water from Coldwater Creek for non-riparian use and is stronger evidence of a more definitive plan of development before 1914.

3.4.2.2 1910 and 1912 Court Documents

The 1909 Contract described above was included as Exhibit A of a lawsuit[28] filed in 1910 by Arrowhead Spring Water Company (ASWC, a corporation formed by Mumford and Temple in May 1909[29]) against AHSC, in Los Angeles County Superior Court. Division enforcement staff reviewed the 1910 lawsuit and other documents related to the 1910 case, which were submitted by several parties who commented on the 2017 ROI. The comments on the 2017 ROI contained reliable historical information that was not available prior to the 2017 ROI.

According to ASWC's 1910 lawsuit, less than one year after the 1909 Contract was signed, and less than six months after AHSC began delivering water to ASWC under the 1909 Contract, the AHSC President, Mr. Seth Marshall, informed ASWC by letter that the Arrowhead Springs Hotel Board of Directors had decided to discontinue water deliveries and terminate the 1909 Contract[30]. According to Mr. Marshall's December 23, 1909 letter, ASWC had been falsely advertising the source of the water delivered under the 1909 Contract as "medicinal" Arrowhead Springs water, rather than as Coldwater Creek water, which allegedly possessed no special characteristic other than its purity. Further, Mr. Marshall's letter alleged that ASWC had violated the 1909 Contract by failing to obtain approval of advertising material in accordance with a supplemental contract signed by both parties in August 1909. Since ASWC filed a lawsuit regarding discontinued water deliveries on January 4, 1910, AHSC had likely terminated deliveries by then. The Court granted ASWC a temporary restraining order requiring AHSC to continue providing water until the matter could be decided.

Though ASWC and its witnesses argued that the water in Cold Creek came partly, if not primarily, from natural springs issuing from the eastern slope of the "Arrowhead" mountain, the Court subsequently decided,[31] on June 20, 1910, that ASWC's advertised descriptions of the water as "Arrowhead" water were fraudulent, and had injured the reputation of the Arrowhead Springs Hotel and its "medicinal" hot spring water. On that basis, the Court found that AHSC lawfully terminated the 1909 Contract and denied ASWC's request for relief. Before the parties could officially

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[28] Complaint; *Arrowhead Springs Water Company v. Arrowhead Hot Springs Company et al*; filed in San Bernardino County Superior Court on January 4, 1910 (Frye Exhibit A-30)
[29] "Incorporations"; Los Angeles Times; June 30, 1910, page 18. Newspaper clipping provided in comment of Amanda Frye (Frye Exhibit A-34).
[30] Answer; *Arrowhead Springs Water Company v. Arrowhead Hot Springs Company et al*; filed in San Bernardino County Superior Court on February 19, 1910 (Frye Exhibit A-30)
[31] Findings of Fact and Conclusions of Law; *Arrowhead Springs Water Company v Arrowhead Hot Springs Company,* June 20, 1910

sever their relationship, however, ASWC appealed the verdict and obtained a temporary restraining order requiring AHSC to continue providing water until the appeal could be decided.[32] ASWC's first appeal lasted until January 12, 1911, when the Court denied ASWC's motion for a new trial. ASWC then issued a noticed that it would file a second appeal, this time to the California Supreme Court. The President and General Manager of ASWC, A.B. McDonald founded a second drinking water business called Arrowhead Cold Springs Company (ACSC) during the second appeal, likely to protect Mr. McDonald's and his partners' water business from the consequences of an expected unfavorable ruling. The Division has no record of the outcome of the second appeal.

In a second lawsuit filed June 17, 1912, AHSC (this time as plaintiff) alleged that Mr. McDonald's new company, ACSC, had picked up where ASWC had left off—fraudulently offering "Arrowhead" water for sale—and in doing so, injuring the reputation of AHSC's *medicinal* spring water. In its lawsuit, AHSC notably did not claim that the ACSC's water business was injuring the reputation of any AHSC *drinking* water business that exported water from the AHSC property. Instead, the allegations mirrored the Court's findings in the 1910 proceedings; only alleging injuries to the reputation of *medicinal* water sold exclusively at the Hotel. This supports a conclusion that, at the time, AHSC only operated its *medicinal* spring water business at the AHSC property and did not operate a competing *drinking* water business that exported water from the AHSC property. In their answer, ACSC alleged that AHSC used less than 5 of the 50 miner's inches of hot and cold spring water originating from the Arrowhead springs, and that the water which ACSC was selling was taken from the remaining 45 miner's inches that flowed off of AHSC's property, unused.[33] However, the Court once again found Mr. McDonald's advertising fraudulently misleading as to the origin and medicinal character of the East Twin Creek water it was allegedly purveying, and in 1913 perpetually enjoined ACSC from selling water obtained from Arrowhead Springs or using the name "Arrowhead Springs Water" to sell any other water.[34]

3.4.2.3 Timeline

Division enforcement staff searched the California Digital Newspaper Collection for articles referencing Arrowhead or California Consolidated Water Company (CCWC) facilities and identified 17 articles and one advertisement dated between 1909 and 1948 describing facilities such as the hotel or bottling plant. Division enforcement staff also reviewed newspaper articles and advertisements submitted by the public related to incorporations, bankruptcy, bottling plant openings, and water sales.

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[32] Order Continuing Temporary Restraining Order in Force Pending Appeal; *Arrowhead Springs Water Company v Arrowhead Hot Springs Company;* July 1, 1910 (Frye Exhibit A-30),
[33] Answer; *Arrowhead Hot Springs Company v. Arrowhead Cold Springs Company*; filed in San Bernardino County Superior Court on November 15, 1912. (Frye Exhibit F).
[34] Findings of Fact and Conclusions of Law; *Arrowhead Hot Springs Company v. Arrowhead Cold Springs Company*; filed in San Bernardino County Superior Court on April 18, 1913. (Frye Exhibit F)

Information in the articles, advertisements, and court documents described in the previous section is used to construct the following timeline:

1909 A plan to construct a pipeline from Coldwater Canyon to the terminus of the San Bernardino Valley Traction Company's Arrowhead rail line, which already existed at the time, is described in the 1909 Contract. Water to be transported in tanks to Los Angeles for bottling. ASWC incorporated by Mumford, Temple, and others, on May 6, 1909. According to advertisement, ASWC was compelled to lease larger warehouse due to high demand and lack of space. According to testimony in ASWC vs AHSC, AHSC terminated the 1909 contract on December 27, 1909

1910 ASWC files a complaint asking the Los Angeles County court to enforce the 1909 Contract. The Court grants a temporary restraining order, continuing the water deliveries, but later rules that the 1909 Contract was lawfully terminated by AHSC. ASWC's attorney, Bernard Potter, and ASWCs President, A.B. McDonald, incorporate a new water bottling company, ACSC, the day before the ruling was issued. ASWC appealed the Court's ruling and received an extension (pending appeal) of the temporary restraining order. AHSC required to continue providing water to ASWC.

1911 ASWC's appeal denied by the Superior Court of San Bernardino County. Notice of appeal to the California Supreme Court filed by ACSC. ACSC adjudged an involuntary bankruptcy.

1912 Complaint filed by AHSC alleging that ACSC's misleading claims about the origin of the water it sold injured AHSC's business. Complaint did not indicate that AHSC sold water, other than at its hotel, or claim injury to a water bottling business it conducted off the property, as would be expected if AHSC operated a competing business at the time. According to an LA Times article, an electric rail line is used to transport patrons to and from the Arrowhead resort, among whose attractions is "good fishing in Cold Water Canyon." A bottling plant is planned to be constructed at the resort, and designs are "ready to be submitted to contractors."

1913 April*:* Court finds for AHSC and enjoins ACSC from marketing or selling water as Arrowhead water or as being derived from Arrowhead Springs.

June: AHSC ships "first bottle of Arrowhead water" bottled at a "recently constructed" bottling plant at the base of "the Arrowhead"[35] on the AHSC property. Bottled water is shipped to San Bernardino via electric rail line, and via steam line to Los Angeles, thereafter. AHSC claims ACSC was selling hydrant water, and the only real Arrowhead Water is bottled at its own bottling plant at the springs.

1914 After December 19, 1914, it was no longer possible to obtain an appropriative right to divert and use water other than by following the provisions of the Water Commission Act. Thereafter, the quantity and season of diversion of the perfected water right resulting from any pre-1914 appropriative claim was limited to the quantity of water which was put to beneficial use, with reasonable diligence

[35] Arrowhead Water Is Being Bottled, San Bernardino Daily Sun, June 12, 1913, page 3

(without interruption), in accordance with the purpose and scope of the plan and visible act which initiated the claim.

1916 Land for first AHSC bottling facility in Los Angeles purchased.

According to a November 25, 1916 Los Angeles Evening Herald article, AHSC officials decided to erect a bottling plant in Los Angeles instead of at the springs "after months of investigation."

1917 AHSC's Los Angeles bottling plant completed.

1919 Deliveries resume and 20,000 gallons per day available. Water is from Indian Springs.

1926 Plan to install bottling facilities on-site at Arrowhead Springs. "Consumption this year will total 8,500,000 gallons" from Indian Springs.

1929 Merger of Arrowhead Springs, Merchants Ice and Cold Storage, and Puritas. All three companies to be administered under California Consolidated Water Company. Arrowhead's source of water is "Arrowhead Springs".

A list of the articles, advertisements, and court documents is provided in Table 4.

3.4.2.4 Building Plan Search

Division enforcement staff requested records from the Los Angeles Department of Building and Safety (LADBS) on January 24, 2017 after completing a preliminary online search.[36] Division enforcement staff requested building permits and plot plans from 1906 to 1935 for the address and Assessor Parcel Number of the current Nestlé bottling plant at 1566 E Washington Blvd in Los Angeles. The purpose of the search was to determine if the plant capacity had expanded in the 1920's, since an increase in diversion and use may not necessarily be covered by a pre-1914 basis of right unless it was part of a plan of development prior to December 14, 1914. The records provided by LADBS included records for addresses 1530-1566 E Washington Blvd, 1915-1955 S. Compton, and 1918-1940 S. Tarleton St. Building permits for new structures, or for alterations that include new additional structures, are summarized below:

Year	Structure	Description
1917	Foundation, Building and offices	146' x 113', 2 stories
	Garage	20' x 50', 1 story
1920	Storeroom	50' x 82', 1 story
1923	Three storage sheds	150' x 67', 150' x 117', 150' x 119', all 1 story
1928	Bottling plant and offices	120' x 70', 2 stories

[36] Los Angeles County building records available at http://www.ladbs.org/services/check-status/online-building-records

1929	Alteration of boiler house	new 69’ x 117’, 2 stories
	Alteration of bottling plant	new 40’ x 107’, 1 story
	Shed of [illegible]	266’ x 20’, 135’ x 12’, both 1 story

3.4.2.5 Historic Resources Report

The Historic Resources Report for the Arrowhead Springs Hotel (San Buenaventura Research Associates, 2005), prepared for the City of San Bernardino, contains information regarding the history of the hotel and expansion of operations. The report contains the following information:

- By the 1920s, Arrowhead Springs [presumably ASC] bottling plants had spread to Ventura, San Bernardino, Colton, Santa Barbara, San Diego and Phoenix.
- Charles G. Anthony joined the Hotel as managing director in 1917.
- Beginning in February 1920, Marshall leased the Hotel to the United States Veterans Bureau. The property was used as a rehabilitation hospital for veterans of the First World War
- The property was returned to Marshall and his investors on June 30, 1924. In preparation for reopening to the public, the owners planned a million-dollar improvement program
- The Hotel owners once again announced plans for Hotel expansion in March 1929, with construction to begin immediately. These plans had been originally developed by Charles Anthony, managing director of the company, prior to the lease of the Hotel to the Veterans’ Bureau. The expansion was to be financed by the proceeds of a merger of the bottled water division of the Arrowhead Springs Corporation with two other water companies.

3.4.3 Hydrological Data and Reports

3.4.3.1 Spring Reconnaissance Survey

Division enforcement staff requested a spring reconnaissance report that was in preparation during the inspection. Rita Maguire sent the report*, Stream Reconnaissance Survey of Upper Strawberry Canyon and Proposed Future Data Collection Activities* (Haley & Aldrich, Inc., 2016), to Division enforcement staff on July 5, 2016. The report was prepared in response to request for data from the Forest Service as part of the NEPA scoping analysis. The reconnaissance occurred from May 31 to June 10, 2016. The report noted the following observations in the upper watershed near the Nestlé PODs:

- Four wetted reaches with continuous surface flow

- One reach with discontinuous surface flow
- Each reach 85 to 265 feet long
- Streamflow 1-2 gpm where present

Figure 1 of the report shows the following:

- A spring and 241-foot wetted reach starting approximately 150 feet downgradient from Boreholes 1, 1A, and 8
- Three intermittent or continuous wetted reaches downgradient of the confluence of the channels from Spring Tunnels 2, 3, and Borehole 1, Borehole 1A, and Borehole 8, but above the meadow
- No springs or wetted reaches near the Spring 7 Complex
- Rim Forest Fault near the Spring 7 Complex
- Waterman Canyon Fault near Boreholes 10, 11, and 12
- Two springs and wetted channel near the confluence of the East and West Branches of Strawberry Creek, immediately downgradient of the intersection of the Waterman Canyon Fault with the stream channels
- Stream is nearly continuous downstream from Waterman Canyon Fault

3.4.3.2 Hydrological Studies for FDA Compliance

State Water Board staff also requested from Ms. Maguire, a copy of "1997 Results of Arrowhead Springs FDA Compliance Study" prepared by Hydrodynamics Group on December 20, 2016. On January 11, 2017, Ms. Maguire provided FDA Compliance Reports for Springs 2 and 3 (The Hydrodynamics Group, 1997b), Complex 7 (The Hydrodynamics Group, 1997a), and Complex 1 and 8 (The Hydrodynamics Group, 1998), as well as the Assessment of History and Nature of Arrowhead Springs (Dames & Moore, 1999), . On August 25, 2017, Ms. Maguire provided Division enforcement staff a letter from the FDA, dated August 21, 2017, indicating that the FDA has no objection to Nestlé's labeling of water from Springs 1, 1A, 8, 10, 11, and 12 as "spring water" under the FDA's standard of identity regulations, based on the current conditions as described by Nestlé.[37]

[37] The FDA's standard of identity regulation relies on different criteria for the classification of "spring water" than the State Water Board uses to determine whether water flowing from a spring or developed water from a spring is subject to appropriation or to the permitting authority of the State Water Board. For example, the FDA's definition of spring water may include sources of water that are in hydraulic connection with a spring where water is extracted via an external source (OE, 2017, included as Appendix B to this report). Extractions via a

The 1999 report indicates that water from all of the boreholes and tunnels meets the FDA and State of California Department of Food and Agriculture requirements for labeling as “spring water”. The reports provided were commissioned by Nestlé in response to changing regulatory requirements for water labeled as “spring water”. The 1999 report states that Spring Tunnel 2 and Spring Tunnel 3 were developed with the construction of “engineered collection facilities”, and therefore, “water is harvested directly from these springs”. Table 1-1 in the report lists the tunnel installation date as 1947 for Spring Tunnels 2 and 3 and 1933 for the original Spring Tunnel 7. The report indicates that the Spring 7 Complex boreholes are directly hydraulically connected to Spring Tunnel 7 based on hydraulic connection testing (i.e., turning borehole valves off and on and measuring spring flow). Hydraulic connection testing was inconclusive at the Spring 4 Complex (Boreholes 1, 1A, and 8) and the Lower Spring Complex (Boreholes 10, 11, and 12) according to the report.

The 1999 report notes that hydraulic connection testing at the Lower Spring Complex was inconclusive because of the relatively low flow from the boreholes and variable flow from the springs. The report did not include any field data or information to indicate the length of the hydraulic connection test at the Lower Springs Complex. The report also states that a one-day hydraulic connection test of the Spring 4 Complex was also inconclusive because turning the borehole valves off and on only produced a 1% change in flow from the spring, and the borehole valves were turned off and on at the same time as a known diurnal fluctuation in flow.[38] There is no information indicating that the test was repeated at another time to separate out the diurnal flow changes. The report indicates that the Spring Complex 4 test also may have been inconclusive because the spring is at a lower elevation than the boreholes in this location, so flow from the boreholes may not have reduced the hydrostatic head sufficiently to produce a change in flow.

The 1999 report indicates that water quality analytical data suggest that the Spring 4 Complex boreholes and Lower Spring Complex boreholes are hydraulically connected to their respective springs and that this data shows that water from these boreholes meets the FDA and State requirements for “spring water”.

The 1998 Hydrodynamics Group study states that Borehole 8 is hydraulically connected to Borehole 1A. Flow from Borehole 1A increased when Borehole 8 was shut off for periods of four days and seven days. Flows from Borehole 1A decreased to the pre-test rate over several days when Borehole 8 was re-opened each time. The 1998 report also has a conclusion for the Spring 4 Complex, differing from the 1999 report, regarding compliance with the FDA “spring water” labeling requirements, and provides more background on spring developments in this complex. The 1998 report states:

pumping well would not be subject to the State Water Board’s permitting authority for streams unless the well was diverting flow from a subterranean stream (OE, 2020). Therefore, though relevant the FDA’s decision is not dispositive for purposes of this report.

[38] Diurnal fluctuation presumably due to plant transpiration.

> Spring 1 and 8 appear to have been natural springs that were developed by drilling bore-holes horizontally into the mountain at the spring orifices. This was *standard state of practice* in the 1930s and 1950s when this was done. Later when flow at the original bore-holes declined significantly; slant holes were drilled at a lower elevation to intercept the original bore-holes.
>
> Once the slant holes were completed the original bore-holes (the original spring orifices) were plugged…. No natural orifice continues to flow as required by FDA regulations…. Further careful testing at the site may qualify Spring 4 as a natural orifice that is in hydraulic connection with the bore-holes. Our testing, while not conclusive is highly suggestive that this is the case.

The 1998 report was the last report produced by The Hydrodynamics Group (superseded reports for Spring Tunnels 2 and 3 and the Spring 7 Complex were produced in 1997). Dames & Moore completed subsequent compliance investigations for Nestlé and produced a final report on each of the Arrowhead springs regarding FDA compliance. The 1997 and 1998 reports are presumed to be superseded since the conclusions vary from the 1999 Dames & Moore report conclusions.

3.4.3.3 Precipitation data

Division enforcement staff downloaded precipitation data for evaluation of relationships between precipitation and production from the spring tunnels and boreholes. Precipitation data used for analyses were retrieved from PRISM (PRISM Climate Group, Oregon State University, 2004). PRISM (Parameter-elevation Regressions on Independent Slopes Model) uses physiography to create spatial climate data sets.

Precipitation data sets were generated using the Data Explorer web interface[39] for the 4-kilometer cell containing the Arrowhead Facility spring tunnels and boreholes. PRISM precipitation data sets were used for analyses as described in Appendix C.

3.4.4 Special Use Permit Decision, Terms, and Conditions Update

In a June 23, 2018 Special Use Permit (2018 SUP) Decision Memo (Memo), the Forest Service issued a decision to approve the continued occupation and use of 4.5 acres of NFS lands in the Strawberry Creek watershed of the San Bernardino National Forest. The SUP has an initial term of three years and may be extended for an additional two years. The SUP permits the extraction and transmission of water using existing improvements by Nestlé Waters North America (Nestlé) in the Strawberry Creek watershed, subject to the following notable terms and limitations:

1) The 2018 SUP authorizes maintenance and “in-kind” replacement of system components but is explicit that “no expansion of the well system is authorized.” (page 4).
2) Under the 2018 SUP, Nestlé must conduct hydrologic and riparian studies to better understand the relationship between water extractions, surface flows, and riparian

[39] PRISM data are available at http://prism.oregonstate.edu/explorer/

habitat to ensure that water extractions are consistent with state law and the Forest Service Land Management Plan (LMP) standards. Additional access, such as the development of additional helicopter pads and additional helicopter flights, is authorized to facilitate monitoring efforts.

3) The initial term of the 2018 SUP is 3 years, with discretionary annual permits for up to an additional 2 years, if necessary, to allow Nestlé to complete required hydrologic and riparian area studies.
4) The 2018 SUP requires Nestlé to conduct authorized operation in accordance with an Adaptive Management Plan (AMP), which includes resource mitigation measures ("adjustments" to the authorized activities required by the 2018 SUP [page 3]) developed by the Forest Service to ensure that the impact to natural resources will be minimal, and possibly improve resource conditions relative to conditions under the expiring SUP.
5) According to the Decision Memo, Nestlé would work with the Forest Service to develop an AMP that includes the following aquatic- and public trust-related resource mitigation measures, among others:
    a. Apply National Best Management Practices (USDA USFS, FS-990a, April 2012) to the operations on Forest Service land, including those for operations in aquatic ecosystems and water diversions and conveyances
    b. Install shut-off valves and/or other flow control devices to ensure that water will not be extracted in excess of the holders (permittee's) ability to store or transport water without waste or spillage from local storage. This measure essentially prohibits Nestlé from extracting water that cannot be locally stored or put to immediate beneficial use, regardless of the right or claim of right under which the water is extracted.
    c. Maintain minimum flows in two locations:
    i. In the lower spring complex (10, 11, 12) – 20 gallons per minute (gpm) in the drainage area A tributary of Strawberry Creek immediately above confluence of drainage area A and B as defined in URS 2002
    ii. Borehole complex 1, 1 A, and 8 – 6.25 gpm as measured at [the POD of] water right A006108
    d. Install and supply water to two "wildlife drinkers" (Decision Memo, page 7) in the vicinities of tunnels 2 and 3, and the borehole 7 complex, respectively.
    e. "Continue the addition of water" (Decision Memo, page 7) via irrigation or streamflow releases if
        i. riparian studies determine that less than the 70% of the expected aquatic life forms and communities are present.
        ii. benthic macroinvertebrates are not maintained at the 70% level by the 6.25 gpm and 20 gpm minimum flows in the diversion watersheds.
    f. Conduct a "paired watershed study", comparing multiple study locations to similar reaches of the diversion watershed, to determine if native vegetation is "vigorous, healthy, and diverse" on <75% of riparian/wetland areas of the diversion subwatershed where the extraction is taking place.
    g. Determine the safe yield in the subwatershed containing the extraction points using a water balance method that includes precipitation, groundwater inflow,

infiltration, evapotranspiration, surface water outflow, etc. in a gridded surface water-groundwater model.

3.4.4.1 Hydrologic and Riparian Studies

The 2018 SUP requires Nestlé to study comparison sites in adjacent unmanaged drainages to determine what conditions would exist in Strawberry Creek without water extraction in the upper watershed. This approach is typically referred to as a paired-basin study. The paired-basin study will also be used to support the Adaptive Management Plan. The 2018 SUP requires Nestlé to develop and submit a study plan within 30 days of permit issuance, and to begin implementing the plan within 30 days of approval by the Forest Service. According to the Memo, the study plan must incorporate the following:

1) Use of "test flows" (page 9) to determine the response of the streams to reductions in water extractions.
2) "Analysis of the full hydrograph" and evaluation of changes in the annual hydrograph resulting from project operations.
3) Isotope studies/chemical analysis of the extracted water to determine its source

Furthermore, the resource mitigation measures must be implemented during the study period to "provide adequate protection and ensure effects are beneath the extraordinary circumstances threshold while the studies are being completed."

3.4.4.2 Administrative Review (Appeal) Opportunities

Though Nestlé could have requested that the Forest Service extend the deadline to sign and accept the 2018 SUP, there is no provision in the Memo for appealing the decision or negotiating the SUP's terms and conditions. According to the Memo, the SUP decision is not subject to "Project-Level Pre-decisional Administrative Review Process" (36 CFR 218) or the "Post-decisional Administrative Review Process For Occupancy Or Use Of National Forest System Lands And Resources" regulations (36 CFR 214.4.c). Furthermore, since the expiring SUP did not provide for renewal, and "refusal by Nestlé to sign and accept the special use authorization within the time allowed . . . shall terminate [the] application and constitute a denial of the requested use and occupancy" (Memo, page 32), the expiring SUP (and all of its terms, conditions, and authorizations) terminated when the new permit was accepted on August 24, 2018 (2018 SUP).

3.4.4.3 Water Rights Discussion in the Decision Memo

The subject of water rights comes up several times in the Memo, but principally in a response to questions from the public related to the consistency of the activities authorized by the SUP with California water rights law. The Memo references the 2017 ROI, and summarizes the Forest Service's understanding of the 2017 ROI as follows:

1) Nestlé is diverting some water without a basis of right;
2) Nestlé's "David Noble Smith" pre-1914 claim is not valid;

3) The Del Rosa judgment did not award water rights, and could not supersede requirements to comply with the 1913 Water Commission Act;
4) Nestlé may be able to claim pre-1914 rights to 26 acre-feet (ac-ft) of water from Indian Springs;
5) Nestlé may be appropriating groundwater, an appropriation that may continue with the permission of the overlying landowner.
6) The 2017 ROI does not recommend that action be taken on the claims of injury to public trust, pending the implementation of the SUP process and AMP.

3.4.4.4 SUP Compliance with Respect to Unauthorized Diversion Determination

The Memo indicates that with respect to water rights, the Forest Service considers Nestlé *in compliance with the SUP* as long as their operations "comply with lawful orders of the SWRCB." Since the 2017 ROI is not a "lawful order of the SWRCB," it appears USFS did not consider the unauthorized diversions identified in the 2017 ROI to be non-compliant with the expiring SUP.[40] Furthermore, since the Memo indicates that this standard will also apply to the 2018 SUP, the decision appears to authorize Nestlé to continue any level of diversion that complies with the AMP, unless or until such diversion is contrary to a formal Order from the Board.

3.4.4.5 Final Adaptive Management Plan

To comply with the National Forest Management Act and the San Bernardino LMP, the 2018 SUP requires Nestlé to implement an AMP (Appendix B of the 2018 SUP) which incorporates an "implement-monitor-adapt" strategy to respond to monitoring information. The Final AMP has four objectives that address water standards, riparian standards, species standards, and invasive species standards. Each objective includes the following elements of the adaptive management process:

a) Statement of the LMP objective
b) Monitoring regimen for objective criteria
c) Trigger points/conditions for each objective
d) Corrective actions to implement if trigger conditions are observed
e) A monitoring regimen to assess the success of corrective actions

The provisions of the Final AMP largely follow the outline described in Item 5 of Section 3.4.4 of this report.

4 ANALYSIS AND DISCUSSION

4.1 Site Hydrogeology, Topography, and Infrastructure

The hydrogeology of the upper Strawberry Creek watershed in Strawberry Canyon is similar to the hydrogeology of bedrock through which the Arrowhead East Tunnel was bored. As shown by Figure 7, the Nestlé Arrowhead diversion area is mostly comprised of

[40] Correspondence and reports such as the 2017 ROI are not orders, decisions, or other final agency actions contemplated by Water Code sections 1122 or 1126.

quartz monzonite (monzogranite) and granitic rocks and is crossed by several east-west oriented fault branches. The PODs for Springs 1-8 are located on areas mapped as the mixed granitic rocks of Silverwood Lake and the PODs for Springs 10-12 are located on the area mapped as very young wash deposits, which overlies the Monzogranite of City Creek according to the US Geological Survey San Bernardino and Santa Ana Quadrangles (Morton & Miller, 2006). Sources of water for boreholes drilled in this area would similarly be groundwater stored in fractured bedrock, with more water available upgradient of the east-west trending faults observed or mapped in the area which block water from flowing downgradient. The groundwater is the result of precipitation percolating into the fractured bedrock, which comes to the surface when the water table intersects with the steep topography, resulting in springs. These springs are likely more common on the upgradient side of the east-west trending faults. As stated previously, the US Forest Service Arrowhead Tunnels Report (US Forest Service, 2012) noted that east-west trending faults are generally barriers to groundwater flow in the area. Figure 7 shows an east-west trending section of the Devil's Canyon fault immediately downgradient of Boreholes 10-12, and Mike Nichols, consultant for Nestlé, pointed out the surface expression of a fault (not shown in Figure 7) running directly through the old Spring Tunnel 7 during the inspection.

Before the installation of infrastructure such as spring tunnels and boreholes, the springs would have discharged flow to the land surface. The uppermost reaches of the west branch of Strawberry Creek, visited during the inspection, were extremely rugged. This rugged topography is characterized by steep slopes with frequent drainages where precipitation runoff and/or gravity moves sediment and rock downgradient, either with streamflow, in rockfalls, or as extensive slope failures as seen on the eastern branch of Strawberry Creek (see Figure 3). Channels observed in this area were small, dry, and contained little sediment. The meadow near Boreholes 10-12 was significantly less steep and was characterized by the deposition of alluvial and colluvial material from upslope. Channels observed in this area were eroded into the meadow. If the original springs were allowed to flow, spring water would have flowed to adjacent drainages that would constitute watercourses.

The spring tunnels and boreholes Nestlé operates are constructed to tap into the interconnected fracture networks that supply water to the original springs. Spring flows are generally variable throughout the year since they are fed by precipitation that slowly percolates through the fractured bedrock, resulting in water table elevations that likely fluctuate on a seasonal basis. Higher water table elevations should result in greater flows at discharge points such as springs. Since spring tunnels and boreholes are designed to tap into the interconnected fracture networks, when these PODs divert more flow than what would have originally emitted from the springs, the additional flow is referred to as developed water. Boreholes constructed away from the original spring orifice may still divert spring water due to the interconnectedness of fractures. A borehole located upgradient of a spring would lower the water table, decreasing the water level gradient and thereby the discharge through the spring. A borehole located downgradient of a spring may lower the water table and cause spring discharge to cease. However, a borehole that taps a set of fractures isolated from a spring due to a boundary, such as a fault, may not impact spring flow. If a borehole punctures an east-west groundwater barrier, such as a fault, it may divert water that would have surfaced as spring flow elsewhere along the trace of the

fault where it intersects a drainage or even from a spring upgradient of the fault. If significant head is built up over a spring site, a proximal borehole discharging at a low flow rate may not impact the spring flow noticeably. Since fracture networks cannot be directly detected, it is difficult to anticipate how a borehole may impact spring discharge and local water tables without detailed analysis.

4.2 Permitting Authority of the State Water Board over Springs

Division enforcement staff obtained a legal opinion from the State Water Board's Office of Enforcement (OE) regarding the State Water Board's permitting authority over springs. Cases including *Gutierrez v. Wege* (1905), *Cross v. Kitts* (1986), and *Wolfskill v. Smith* (1907) establish that the water flowing from a spring into a watercourse is subject to appropriation whether it percolates through the soil or reaches the stream in a running stream, and that the water is subject to appropriation regardless of whether the water reaches the surface naturally or through an artificial boring[41] (OE, 2020). The diversion of water from a spring that results in a depletion of streamflow, even if diverted using an artificial boring, is within the permitting authority of the State Water Board if appropriated after 1914 (OE, 2020). *Pomona Land & Water Co. v. San Antonio Water Co.* (1908) establishes that the diverter has the burden to demonstrate that diversions will not injure prior rights (OE, 2017). Several State Water Board decisions grant permits for both the natural and the developed flow of spring water from subsurface diversions such as spring boxes or tunnels.[42] The Judgment states that CCWC "has entered in and upon the springs at the headwaters of said Strawberry Creek and developed the water at said Springs that would not naturally flow to plaintiffs point of diversion…", showing that the original diversions took flowing spring water tributary to Strawberry Creek as well as developed water.

Naturally flowing spring water and developed water[43] diverted at the headwaters of Strawberry Creek are within the permitting authority of the State Water Board unless diverted under a valid riparian right or a valid appropriative basis of right initiated prior to 1914, or unless the water diverted is percolating groundwater that would not otherwise flow in a natural surface channel. If the diverter can (1) determine the portion of the flow that resulted from development, and (2) show that the diversion of this developed water does

[41] Water Code §5101(a), exempts diversions of less than 25 AF from springs that do not flow off the property in which the spring is located from the Statement Program. The Statements Program is a means to record claimed riparian and pre-1914 rights.
[42] See Water Rights Decisions 681, 1022, 1149, 1209, 1263, 1325, 1352, 1363, 1451, 1494, 1595, and Water Rights Order 77-10.
[43] "Developed water" as used in this report of investigation refers to any increase in flowrate above the natural flowrate of a spring at a specific point of diversion that results from development of the spring. While modern use of the term "developed water" has broadened, under common law, and in the context of springs, "developed water" has referred to "new waters added to a stream or other source or area by means of artificial work." (OE, 2020.) Thus, a diversion using a bore hole, tunnel, or other artificial works is developed water if it increases the natural flow of the stream that existed before development.

not injure senior water rights downstream,[44] then the developed water is not within the permitting authority of the State Water Board (OE, 2020). Unless any information to the contrary is available, all diversions from springs that would flow to a channel are within the permitting authority of the State Water Board. In summary:

1. Natural spring flow that flows or would have flowed in a natural surface channel is within the permitting authority of the State Water Board regardless of whether:

    a. the water is diverted after it reaches the surface; or

    b. the water is diverted subsurface and depletes surface flow.

2. Developed water from a spring belongs to one of the two following categories:

    a. Developed water from a spring that flows or would have flowed in a natural surface channel. Water in this category is within the permitting authority of the State Water Board unless proven otherwise; or

    b. Developed water from a spring that does NOT flow or would NOT have flowed in a natural channel, and is therefore presumed to be "percolating groundwater." Water in this category is not within the permitting authority of the State Water Board.

4.3 Bases of Right

Information provided by Nestlé or obtained by Division enforcement staff indicates several possible bases of right for water diverted or extracted by Nestlé today from Strawberry Canyon. These possible bases of right are the following:

- A pre-1914 water right claimed by Nestlé based on an 1865 possessory claim by David Noble Smith, a predecessor owner of the property on which the Arrowhead Hotel was later constructed.

- A pre-1914 water right identified by Division enforcement staff based on a plan—detailed in the 1909 Contract—to export water from Strawberry Canyon by railway to a bottling plant in Los Angeles.

- A water right recognized in the Judgment.

- A water right dating prior to 1914 to water from Strawberry Canyon as identified in a 1930 title report for the Arrowhead Springs Hotel.

These bases of right are reviewed and analyzed further in the sections below.

[44] i.e., by diversion of water that would otherwise surface and flow in a natural surface channel further downstream

4.3.1 Pre-1914 Claim Based on David Noble Smith Claim

Nestlé claims it has a pre-1914 water right that originates from an 1865 possessory claim by David Noble Smith (Maguire, Pearce & Storey, PLLC, 2016b). David Noble Smith was the owner of property on which the Arrowhead Springs Hotel was later constructed. David Noble Smith's successor in interest filed a notice of appropriation in 1887, for "domestic and irrigating purposes" on "lands belonging to said Arrowhead Hot Springs Hotel Company…" (Pioneer Title Insurance and Trust Company. (1930)). According to documents provided by Nestlé to Division enforcement staff, water bottling on the Hotel property began in the late 19th century (Maguire, Pearce & Storey, PLLC, 2016b). The Division lacks clear information identifying the location or locations of the sources originally bottled at the Hotel. However, San Buenaventura Research Associates (2005) notes there are 25 springs on the Arrowhead Springs property that would have provided spring sources for bottled water were on the property.[45]

It should also be noted that the 1910 court documents indicate that at the time of the 1909 Contract, water was bottled for use by hotel guests only, and that ASWC was the first and exclusive company that would sell the Arrowhead water in Los Angeles. The 1909 Contract also states that the contracted water was to come from the same source used in the Arrowhead Springs Hotel and identifies that source as Cold Creek (and alternatively as Cold Water Creek or Coldwater Creek). During one cross examination in the 1910 Court documents, however, Mr. Marshall stated that "in the winter [Cold Creek] water was unusable at times, all the surface riley and muddy and [the Hotel] had to use other water."[46] Therefore, while AHSC is likely to have bottled water from the various springs and alternative sources during some periods or some seasons, the best evidence suggests that the earliest significant drinking water bottling done on the property was likely of water from Coldwater Creek.

Based on this information, the David Noble Smith claim would have been limited to establishing a riparian claim of right. (OE, 2020). The on-site bottling of water from any natural source contiguous to the property was a valid riparian use, but not an appropriative use. Water must be transported off the riparian parcel for beneficial use to establish an appropriative water right (OE, 2020). An appropriation could only have been established once the Hotel owners began diverting water for bottling at off-site locations. Consequently, diversions of water for bottling based on riparian rights held by David Noble Smith cannot be the basis of right for Nestlé's current off-site water bottling operations.

4.3.2 Pre-1914 Right Based on Plans to Export Water for Bottling

Division enforcement staff has determined that Nestlé's predecessor, Arrowhead Springs Company, also known as Arrowhead Springs Corporation (ASC) or Arrowhead

[45] San Buenaventura Research Associates (2005) does not indicate that the springs would not have existed when Nestlé began bottling on the Hotel property.

[46] Proposed Statement on Motion for a New Trial; *Arrowhead Springs Water Company v. Arrowhead Hot Springs Company* et al; filed in San Bernardino County Superior Court on November 17, 1910; addendum to page 20 line 2 after word "spring" in original document. (page 4 of Arrowhead_1910_case_part2_minutes_exhibits.pdf, Frye Exhibit A-30)

Hot Springs Company (AHSC)[47], established by Seth Marshall in 1904 (San Buenaventura Research Associates, 2005), likely established a pre-1914 appropriative water right via progressive use of water in accordance with a plan, described in the 1909 Contract (see Section 3.4.3.1), to export water by rail for bottling in Los Angeles by ASWC.

The appropriation of water includes any taking of water other than for riparian or overlying uses. (OE, 2017.) Prior to the effective date of the Water Commission Act in December 1914, there were two ways to establish a right to appropriate water from a California watercourse. The first method to obtain a right to appropriate water, to begin diverting water and applying it to a beneficial use, dated to statehood. Once a would-be diverter took some act manifesting intent to appropriate water, the diverter established a claim to the volume of water reasonably necessary to serve the purpose for which the diversion was sought. So long as the diverter acted with due diligence to achieve the intended diversion, did in fact divert within a reasonable time, and used the diverted water for a beneficial purpose, the claim was perfected and had priority over any later established claim. The second method became available with the 1872 passage of Civil Code sections 1415 through 1421. A person intending to establish a claim of appropriation was required to post a notice at the intended point of diversion and to record a copy of the notice with the county. The claim became entitled to priority upon commencement of the diversion.

To initiate an incipient appropriative water right, a prospective diverter had to demonstrate the existence of a plan to divert water, by visible act and avowed intent, such that other potential diverters would not be misled as to the quantity and purpose of the diversion. Though it was necessary to initiate such an incipient right prior to December 19, 1914, perfecting the incipient right did not require putting the claimed water to beneficial use prior to that date. An incipient pre-1914 water right could be perfected after 1914, if the project was diligently and progressively developed pursuant to the plan of development within a reasonable time. While the incipient right could be perfected after December 19, 1914, the right could not expand beyond the quantity or season of diversion in the plan of development.

The 1909 Contract between the AHSC, and James Mumford and C.H. Temple (ASWC) (see Section 3.4.2.1 above), and the subsequent litigation over its termination (see Section 3.4.2.2 above), provide a contemporaneous, highly-credible record of every element necessary to establish a pre-1914 appropriative water right, and more:

a) Method of diversion/diversion infrastructure—ASWC agreed to construct a pipeline at their expense for carrying water from AHSC's reservoir to the terminus of an existing electric rail line, either directly from the reservoir or from pipeline between the reservoir and other AHSC facilities

[47] These names were used interchangeably in historical newspaper articles. Deeds and agreements reviewed by Division enforcement staff, as well as the Del Rosa Judgment, refer to the entity as the Arrowhead Springs Corporation. The 1909 Contract, 1910 Court documents, and 1913 Court documents refer to the entity as Arrowhead Hot Springs Company. Building permits prior to 1930 generally refer to Arrowhead Springs Co.

b) Source/Point of Diversion—The delivered water was required to be "derived from the same source as that from which [AHSC's] reservoir [was] supplied, being that certain natural stream known as Cold Creek."

c) Quantity—AHSC agreed to deliver sufficient water, through the prospective pipeline from its reservoir, to fill four train cars per week during the first three years of the 10-year agreement. During the remaining seven years, AHSC would deliver sufficient water through the pipeline to fill seven train cars per week. According to ASWC Secretary and Treasurer Frank McDonald, a witness under oath in the 1910 trial with direct knowledge of the appropriation, the tank cars used to transport water under the 1909 Contract had a capacity of 6,500 gallons.[48] The 1909 Contract was not limited with respect to season of diversion, so the maximum anticipated appropriation was 7 train cars of 6,500-gallon capacity each (45,500 gallons) per week for 52 weeks each year, or 7.26 AFA.

d) Purpose of Use—The 1909 contract states that "all water delivered into tank cars . . . shall be sold by [ASWC] . . . in bottles or other receptacles bearing a label . . . furnished by [ASWC] after first having been approved by AHSC . . ." Therefore, all the water delivered under the 1909 Contract was intended to be bottled by ASWC for sale, in bottles, as drinking water and was, presumably, not intended for uses such as washing cars, irrigating crops, or mopping the bottling facility floors. Also, the 1909 Contract forbid AHSC from selling (or giving) any water from its property to anyone competing with ASWC, and also forbid AHSC itself from selling water in competition with ASWC, except on AHSC property. So, while the terms of the 1909 Contract were followed, all of the water appropriated from the AHSC property was used only for the purpose of being sold as drinking water by ASWC.

e) Season of diversion—The 1909 Contract requires AHSC to supply water whenever it was required, every week, and does not state or imply that there are any weeks when water was not required to be supplied. Therefore, the implied season of diversion of the incipient water right established by the 1909 Contract is Jan 1 to December 31.

f) Reasonable timeframe for diligent implementation—The 1909 Contract specifies deadlines by which each of the various stages of implementation would be completed, which may in turn be interpreted as reasonable parameters for diligent development of the incipient right:

    1. The pipeline was to be constructed within 6 months of execution of the contract.
    2. ASWC was to supply the specialized train cars within 6 months
    3. AHSC was to deliver up to 4 train cars per week for the first 3 years
    4. AHSC was to deliver up to 7 train cars per week beginning the fourth year.

Though AHSC terminated the 1909 Contract and later sought to terminate ASWC's role in the plan, AHSC did not thereafter deviate from the other basic aspects of the 1909

[48] Proposed Statement on Motion for a New Trial; *Arrowhead Springs Water Company v. Arrowhead Hot Springs Company* et al; filed in San Bernardino County Superior Court on November 17, 1910, page 10, line 26 (Frye Exhibit A-30; Arrowhead_1910_case_part_1_orders_minutes.pdf)

plan. Within a few months of the Court's decision enjoining ASWC's successor from marketing or selling "Arrowhead Springs water" in May of 1913, AHSC constructed its own water bottling facility at the terminus of the rail line and began transporting drinking water by rail for sale in Los Angeles. AHSC did not purchase land for the second, Los Angeles-based bottling plant until 1916. There is no evidence that the second AHSC factory was planned before 1914. Insofar as the Los Angeles bottling plant could bottle more than 7.26 AFA, the excess quantity was not part of the pre-1914 plan of development. There is no evidence that the 1909 plan was superseded by any other plan of development prior to December 19, 1914, limiting Nestlé's pre-1914 right to the scope of the plan outlined in the 1909 Contract. Accordingly, Nestlé's pre-1914 water right, based on the available historical information, is no greater than 7.26 AFA with a priority date of 1909.

4.3.3 Water Rights Recognized in the *Del Rosa* Judgment

Nestlé claims to have pre-1914 water rights originating from its predecessor, CCWC, which was awarded access to water from the upper reaches of the Strawberry Canyon Watershed under the Judgment (1931), a stipulated settlement agreement between private parties resulting from a judicial proceeding (OE, 2020). Prior to the Judgment, CCWC understood that it had acquired water rights from ASC through transactions documented in three deeds and agreements from 1929, 1930 and 1931. It was CCWC's understanding that these deeds and agreements transferred various rights and facilities from ASC to CCWC, including the rights to water from Indian Springs, and the rights to all water in Strawberry Creek belonging to ASC. The 1931 agreement was the first to clarify that Strawberry Creek water rights were transferred for water north of a specified line later incorporated in the Judgment (see Figure 5). The 1931 agreement indicates that ASC may have made "false and fraudulent representations" to CCWC and that ASC may not have actually held the pre-1914 water rights it transferred (Maguire, Pearce & Storey, 2016b, Attachment 3). According to the Judgment, Del Rosa appropriated all remaining water in the East Twin Creek after diversion by ASC and predecessors. The Del Rosa Water Company filed a lawsuit against ASC, CCWC, and other parties most likely due to concerns that the transfer and expansion of water rights and the diversion of water in the Strawberry Canyon Watershed injured Del Rosa's water rights. Del Rosa's lawsuit was resolved through the Judgment, which memorialized a settlement agreement between the parties in the lawsuit (Maguire, Pearce & Storey, PLLC, 2016b). Several parties and water diversions are described and addressed in the Judgment. Figure 8 is a diagram of water diversions in the East Twin Creek and Waterman Canyon watersheds around 1931 that the parties agreed upon as described in the Judgment.

Regardless of whether ASC had rights to convey to CCWC, the Judgment recognized that CCWC would nonetheless have a right to continue diverting water from Strawberry Canyon. In accordance with the Judgment, Del Rosa and CCWC agreed that CCWC would have the right to appropriate water from Indian Springs and to develop, transport by pipeline, and take out of the watershed "any and all of the water of all springs situated or obtainable" in Strawberry Creek and Canyon and lateral canyons north of a specified line (see Figure 5) for bottling (Del Rosa Mutual Water Company vs.

Carpenter et al., 1931). The Judgment recognized that CCWC had invested significant sums of money and built a business dependent on the diversion of water from the springs at the headwaters of Strawberry Creek in reliance on its initial understanding that it legally acquired water rights from ASC (Del Rosa Mutual Water Company vs. Carpenter et al., 1931). As a result, the Judgment determined "it would be inequitable to enjoin [CCWC] from continuing to so take and use said water" (Del Rosa Mutual Water Company vs. Carpenter et al., 1931). The Judgment then ordered CCWC to pay "damages" (Del Rosa Mutual Water Company vs. Carpenter et al., 1931).

Understanding the Judgment's context is important. The Judgment was not a ruling issued by a court after a full trial with testimony and cross-examination, but a stipulated agreement and settlement between private parties (OE, 2020). Since the State Water Board has concurrent jurisdiction over water, the outcome of the judicial proceeding is not binding upon the State Water Board (OE, 2020). The State Water Board may arrive at a different conclusion regarding the validity of Nestlé's predecessor's adjudicated water right in Strawberry Canyon watershed than the conclusions of the Judgment.

Holders of rights adjudicated in court, technically speaking, do not divert under the court adjudication, but under rights which the court has determined exist (State Water Board, 1967). Division enforcement staff has determined the Judgment did not recognize that CCWC had a right to appropriate water (OE, 2020). Rather than recognizing that CCWC had any specific right, the Judgment merely stated that it would have been "inequitable to enjoin" CCWC's continued taking and use of an unspecified amount of water. Thus, nothing in the Judgment superseded requirements to comply with the 1913 Water Commission Act, which established the exclusive means of appropriating water in California through a comprehensive permitting scheme (OE, 2020). Regardless of what rights CCWC believed it acquired from ASC through the three agreements, it could only acquire rights from ASC insofar as ASC had rights to transfer. There is no evidence in the record to date that establishes ASC's pre-1914 right.

Alternatively, had Del Rosa transferred part of its pre-1914 water right to CCWC, the right would have maintained a pre-1914 priority date. However, the Judgment does not indicate that Del Rosa transferred its rights to CCWC. Instead, it indicates that CCWC's rights were independent of Del Rosa's. Furthermore, the Judgment does not state that CCWC purchased Del Rosa's right. The Judgment instead states that CCWC paid Del Rosa "damages," although it does not specify what the damages were for. Based on information obtained by the Division, Del Rosa's water right was not sold to CCWC and the appropriation of water from Strawberry Canyon was not initiated by CCWC until after 1914. The Division does not have any information indicating that the appropriation of water by CCWC or its predecessor ASC from upper Strawberry Canyon was planned prior to 1914. Therefore, CCWC should have applied for a post-1914 water right permit after the Judgment, for diversions in excess of the 7.26 AFA originally diverted from Coldwater Creek, and before proceeding with further diversions of natural spring flow and diversions of developed water that would have flowed in the natural surface stream channel.

Although Division enforcement staff has determined that CCWC should have applied for a water right permit for the rights recognized in the Judgment, CCWC and successors

may have assumed they acquired a water right with no regulatory requirements. In fact, there were no requirements at the time of the Judgment to report surface water diversions or groundwater extractions for water rights not obtained pursuant to the Water Commission Act of 1913. As explained in Section 3.1.1, the Water Recordation Act of 1955 required initial Notices of Extraction and Diversion of Water as well as annual Notices for extractions of groundwater. Notices additionally required information regarding surface water diversions.[49] CCWC's successor, Arrowhead and Puritas Waters, filed Notices in 1957 for extractions in the Strawberry Canyon watershed. Initial Statements became required for water right claims in 1965; however, Statements are not required for diversions reported under Notices filed pursuant to the Water Recordation Act. It is plausible that Nestlé's predecessors assumed they held water rights granted by the Judgment and assumed they were sufficiently complying with water rights laws and regulations by filing Notices rather than applying for water right permits. Nevertheless, any good faith prior diversion in excess of its right to not more than 7.26 AFA does not eliminate the requirement to divert and use water under a valid right.

Neither does the passage of time or any good faith error, assuming it occurred, confer a water right. Since 1914, a new appropriative water right can be obtained only through the process set forth in Division 2, Part 2, of the Water Code, and prescription cannot be obtained against the state.[50] Further, a claim of laches, an undue delay in asserting a legal right, does not protect an illegal water user.[51]

To obtain a water right permit to divert water from a fully- appropriated stream system, the water right applicant must demonstrate that water is available for appropriation. Since the Santa Ana River is fully appropriated, as mentioned in Section 2.1, no water is available for further appropriation from the watershed, and new water rights applications have generally not been accepted since 1964. Regardless, Nestlé is not precluded from filing an application to appropriate water in excess of the 7.26 AFA it may claim under a pre-1914 right. Whether there is water available for appropriation or whether Nestlé could now obtain an appropriative right is beyond the scope of this report.[52]

4.3.3.1 Nestlé's claim to all water in Strawberry Canyon

Nestlé claims the right to all the water "obtainable in Strawberry Creek and Canyon" north of the line specified in the Judgment; however, Nestlé and its predecessors did not divert or extract all the obtainable water nor did they put all obtainable water to beneficial use. Generally, the appropriator's right is for the amount of water that is applied to beneficial use, not for the amount claimed, nor even for the amount diverted, if not beneficially used (OE, 2020). To claim the right to all obtainable

[49] Information regarding diversion or extraction of water from a single source of less than 10 AFA was not required.
[50] *People v. Shirokow* (1980) 26 Cal.3d 301
[51] *See Id.*, at 311-312, fn. 14.
[52] Because the Santa Ana River watershed was not declared fully-appropriated until 1964, some water historically diverted by Nestle's predecessor may be available for appropriation. The actual determination of water availability and whether Nestle could now obtain an appropriative right would occur during the water right permitting process.

water, including water not within the permitting authority of the State Water Board (i.e., claimed pre-1914 and percolating groundwater diversions), Nestlé's predecessors would have had to divert all Strawberry Creek streamflow, spring water, and groundwater obtainable in the entire watershed and put this water to beneficial use. This is virtually impossible given the landslide-prone conditions in the eastern half of the watershed and the expense to install diversion facilities at all springs and seeps in the watershed. The continued existence of natural flow in Strawberry Canyon, flowing from north of the Del Rosa Line, indicates that Nestle and its predecessors did not take physical possession of all the water in the watershed.

Nestlé's predecessors were also unable to obtain the claimed right to all obtainable water because there were other appropriators in the watershed. The Judgment reserved water for several downstream appropriators on East Twin Creek. Prior to the Judgment, Application A006108 was submitted by the California Department of Public Works in 1928 for diversion of water from a spring located just above Nestlé's Borehole 1. Subsequently, License 1649 was granted in 1936. There is no record of a protest submitted by Nestlé's predecessors. Additionally, well completion reports for wells installed in Rimforest, immediately upgradient of the Spring 7 Complex and within the Strawberry Creek watershed, are available on the Geotracker Regulator site (State Water Board, 2015) which contains well completion reports from DWR. These wells in Rimforest may extract groundwater that could discharge from springs in the Strawberry Creek watershed. The oldest well completion report available on Geotracker is dated 1957.

4.3.4 Pre-1914 water rights based on title reports

Nestlé has indicated that its pre-1914 water right claim may also be supported by information from a title report dated September 23, 1930 (see Maguire, Pearce & Storey, 2016b). According to Nestlé, the title report indicates that diversions from Strawberry Canyon for use at the Arrowhead Springs Hotel occurred prior to 1914. However, Division enforcement staff's review of a partial copy of title report (Pioneer Title Insurance and Trust Company, 1930)[53] and available patent maps (Bureau of Land Management, 2017) indicates that the "Strawberry Creek" referred to in the title report may be known today as Coldwater Creek, although this is unclear, because the descriptions of locations in the report are inconsistent and names of locations changed over time.[54] Claims identified in the title report were submitted by the Arrowhead Hot

[53] Partial copy of the title report provided to Division enforcement staff includes six of the 32 claims listed in the Index of Enclosures.

[54] Two of the claims describe "Strawberry Canon"(sic) as the "North west fork of Twin Creeks", which would suggest Waterman Canyon, which was formerly known as West Twin Creek. Two other claims are for water "In the canon (sic) known as Cold Canon (sic) and also as Strawberry Creek" (Pioneer Title Insurance and Trust Company, 1930). These claims included in the title report date to 1887 and are historical records. Locations described can be vague, inaccurate, and difficult to determine, and these historical claims are difficult to trace through subsequent records. While the locations of these claims are difficult to determine, the location of Indian Springs is clearly defined, as quoted in Section 3.4.2.1.

Springs Hotel Company, and the 1930 title report states that the "interest of the appropriators of the water described in the water notices has descended to Arrowhead Springs Corporation… by deed from Arrowhead Springs Company…", suggesting that ASC held pre-1914 rights originating in the claims at the time of the title report.[55] However, Nestlé also claims that "the water rights conveyed by ASC to CCWC pursuant to the 1929 Deed, the 1930 Agreement, and the 1931 Agreement were both riparian and appropriative."

Based on a 1929 deed and 1930 agreement, CCWC obtained ASC's pre-1914 appropriative right to water from Indian Springs. This right, which Division enforcement staff concludes was based on the 1909 Contract and subsequent bottling operation described in Section 4.3.2, was initially deeded to CCWC in the 1929 deed (Maguire, Pearce & Storey, 2016b, Attachment 1), then partially quitclaimed back unto ASC in the 1930 agreement (Maguire, Pearce & Storey, 2016b, Attachment 2). The quitclaimed portion of the right was for culinary and drinking purposes at the Hotel, which can be characterized as riparian uses. The 1930 deed appears to leave CCWC's right to appropriate the water of Indian Spring intact but clarifies that this right to "surplus" water is subordinate to ASC's right to water for use at the Hotel.

The three deeds and agreements, above, do not appear to grant CCWC any additional pre-1914 water rights originating in Coldwater Canyon or any other part of the East Twin Creek or Waterman Canyon watersheds to CCWC. The 1929 deed (Maguire, Pearce & Storey, 2016b, Attachment 1) transferred rights from ASC to CCWC for "all subterranean waters" in Waterman, Coldwater, and Strawberry Canyons "belonging to the grantor… excluding, however, all waters of the grantor from surface streams and hot springs". In the August 6, 1930 agreement (Maguire, Pearce & Storey, 2016b, Attachment 2), which predates the September 23, 1930 title report, the Fifth agreement states these rights to subterranean waters in Coldwater Canyon are quitclaimed back to ASC. In the September 26, 1931 agreement (Maguire, Pearce & Storey, 2016b, Attachment 3), predating the Del Rosa Judgment dated October 19, 1931, the Fifth agreement states that CCWC will pay ASC $15,000 for ASC to commence development of water in Cold Water Canyon within one year, involving the construction of "pipe lines, reservoirs, and other facilities as Arrowhead may deem advisable". The agreement does not clarify the beneficial use for water to be diverted via this pipeline, and the Division does not have any information indicating that any rights were subsequently deeded to CCWC.

Furthermore, the water rights-related documents listed in the title report include three "Water Location Notice[s] showing appropriation by [AHSC]", two "Amended Notice[s] of Appropriation by [AHSC]", and several similar water location notices filed by the previous owner of a property later conveyed to AHSC, all from 1887. Though the exact

[55]This is not entirely clear. The report also states that a memorandum, filed with a 1925 deed that transferred all water rights contained in the title report, noted exceptions contained in the deed, quoting the deed: "Saving and excepting from all of the above described property all roads and highways. Also, all water rights, easements, and privileges belonging to said real property or any part thereof". The report then notes that the exception is ambiguous (Pioneer Title Insurance and Trust Company, 1930).

locations of the POD's described in the 1887 notices are unclear, since they reference features such as trees and rocks that were subject to change, they are all related to property lying in the East Twin Creek Watershed.[56] The Arrowhead Hotel property is contiguous to the East Twin Creek, and therefore riparian to it, and all sources of water tributary to it in the East Twin Creek watershed above the hotel. Therefore, water diverted from locations associated with the documents listed in the 1930 title report, and used on the hotel property, was not used outside of riparian land. Such water, having never been used or transported off riparian land, did not initiate or perfect a pre-1914 appropriative right because the water was never appropriated. Such water was instead obtained from a riparian source, for use on riparian land, and was therefore diverted under a riparian right. (OE, 2020)

4.3.5 Summary of Division enforcement staff's determinations regarding bases of right claimed

Nestlé's explanation for its bases of right for its water diversions have had limited supporting evidence. Nestlé claims that their rights trace back to David Noble Smith and that their rights were also adjudicated by the Judgment. However, Division enforcement staff finds that there is no record that any of Nestlé's pre-1914 water rights claims relate back to the original possessory claim by David Noble Smith. Although the Judgment recognized that it would be inequitable to prohibit Nestlé's predecessor from continuing to divert water that it had been diverting or had planned to divert, it neither created nor recognized an existing pre-1914 right to water from the upper Strawberry Creek watershed. Therefore, Division enforcement staff conclude that Nestlé's predecessor was still required to comply with the Water Commission Act in order to lawfully appropriate more than 7.26 AFA, as discussed below.

However, Division enforcement staff found that Nestlé likely has a valid claim to a limited pre-1914 water right. Division enforcement staff have concluded that the 1909 Contract and subsequent court proceedings surrounding its termination are evidence that Nestlé's predecessor, AHSC, had a plan of development to appropriate up to 7.26 AFA for bottling. Insofar as AHSC continued with its plan of development, and despite terminating the 1909 Contract and changing the place of use to the AHSC bottling plant in downtown Los Angeles in 1917, it could not expand on the planned 7.26 AFA appropriation after December 19, 1914. Although Nestlé asserted that the 1909 Contract and the bottling plant in downtown Los Angeles were independent bases of right, the evidence Nestlé has presented relates to, and references, the water right initiated by the 1909 Contract. Since none of the other evidence reviewed by Division enforcement staff is sufficient to establish a pre-1914 right independent of that which was initiated and perfected pursuant to the plan outlined in the 1909 Contract, Division enforcement staff has concluded that there is prima facie evidence that Nestlé has a valid claim to a pre-1914 water right to divert no more than 7.26 AFA from the Strawberry Creek watershed.

[56] "In connection with the property of Arrowhead Springs Corporation lying in the East Twin Creek Water Shed, we are enclosing copies (uncertified) of the following documents." Pioneer Title report, page 1

4.4 Diversions Subject to the Permitting Authority of the State Water Board

The following paragraphs discuss how Nestlé spring tunnels and boreholes impact flow from the original springs in the context of water rights. Based on OE legal advice (OE, 2020), Division enforcement staff determined that a significant portion of the water diverted by Nestlé at these locations is within the permitting authority of the State Water Board. Each spring is addressed below:

4.4.1 Spring Tunnels 2, 3, and 7

According to Hydrodynamics Group (1997a) and Dames and Moore (1999), and according to statements made by Nestlé staff and representatives during the inspection (see Section 3.3), these springs were developed by constructing a tunnel at the original spring orifice (The Hydrodynamics Group, 1997b; Dames & Moore, 1999). There are natural channels located immediately adjacent to the springs (see Appendix D), so water that would have surfaced, prior to installation of diversion facilities, would have flowed to the channels. Since the original spring orifices were altered or destroyed during construction, the amount of natural flow cannot be determined. The Division does not have any information indicating the original spring flow or how much of the flow may be developed flow. Therefore, all of the water diverted from Spring Tunnels 2, 3, and 7 is within the permitting authority of the State Water Board, unless diverted under a valid pre-1914 claim, because the natural flow and developed flow would have flowed in natural surface channels if not diverted by Nestlé.

4.4.2 Boreholes 1 and 8

According to the Hydrodynamics Group (1998), these springs were developed by boring at the original spring orifices and constructing horizontal boreholes, then by subsequent installation of new borings intercepting the original borings, and by plugging the original boring outlets.

There is a natural channel located immediately adjacent to the borings, so water that would have surfaced, prior to installation of diversion facilities, would have flowed to the channel. Since the original spring orifices were altered or destroyed during construction, the amount of natural flow cannot be [57]OBJ such as Spring 4, and flowed to spring-fed natural surface channels. Additionally, developed flow may have surfaced upgradient as well, as indicated by the dewatering of the spring associated with Water Right License 1649.

Therefore, all the water diverted from Boreholes 1 and 8 is within the permitting authority of the State Water Board, unless diverted under a valid pre-1914 claim, because the natural flow and developed flow would have flowed in natural surface channels if not diverted by Nestlé.

4.4.3 Borehole 1A

According to Dames and Moore (1999), this point of diversion was developed by constructing a horizontal borehole. The Division does not have information indicating

[57] Mapped in (Haley & Aldrich, Inc., 2016)

whether the boring was installed at a spring orifice. The Hydrodynamics Group (1998) indicates that this borehole is hydraulically connected to Borehole 8. Considering that (1) the spring POD for License 1649 upgradient was dewatered, (2) there are no known hydrological barriers between Borehole 1A and downgradient springs, and (3) this borehole is hydraulically connected to Borehole 8 – then the developed flow from this borehole is within the permitting authority of the State Water Board, unless diverted under a valid pre-1914 claim, because the developed flow would have flowed in natural surface channels if not diverted by Nestlé.

4.4.4 Boreholes 7, 7A, 7B, and 7C

According to the Hydrodynamics Group (1997a) and Dames and Moore (1999), these points of diversion were developed by installing boreholes below the original Spring Tunnel 7. These horizontal boreholes are up to several hundred feet long and appear to be bored through the Rim-Forest Fault and completed on the upgradient side of the Rim Forest Fault (The Hydrodynamics Group,1997a, Plate 2), which likely acts as a barrier to flow. According to The Hydrodynamics Group (1997a) and according to statements made by Nestlé staff and representatives during the inspection (see Section 3.3), when the boreholes are allowed to flow, surface flow from Spring Tunnel 7 ceases. Therefore, some portion of the water diverted from these boreholes is flow that would have flowed in natural surface channels adjacent to Spring Tunnel 7. Based on the extremely limited data available to the Division and precipitation amounts obtained from the PRISM model (see Section 3.4.3), up to 52% of the water diverted on an annual basis from these boreholes may be developed water (Appendix C). It is unknown if this developed water would have surfaced elsewhere in the watershed due to the fault barrier. The Division does not have any evidence of any upgradient dewatered springs at this time.

Based on Google Earth imagery, the Rim-Forest Fault appears to intersect a well-defined drainage approximately 460 feet west of the borehole site, but the Division does not have any evidence of a spring in this location. Therefore, at least approximately 48% of the water diverted on an annual basis from the Spring 7 Complex boreholes is within the permitting authority of the State Water Board, unless diverted under a valid pre-1914 claim, because this water would have flowed in natural surface channels if not diverted by Nestlé. The remaining 52% of the water diverted may not be within the permitting authority of the State Water Board, because it would not have flowed in a natural surface channel had it not been developed. [58] However, this is based on the limited information available to the Division at this time and the proportion may be less than 52%. The percentage of each category of water in this comingled flow should be refined with further data collection and analysis.

[58] Developed flow that may not flow in natural surface channels elsewhere in the watershed due to a fault barrier and lack of significant upgradient springs, if not diverted via wells, may remain in the aquifer and result in higher groundwater elevations. Once groundwater elevations are high enough, this could preclude infiltration of precipitation to groundwater and result in increased sheetflow; however, sheetflow is not subject to the permitting authority of the State Water Board. While sheetflow could reach natural channels, the relationship between groundwater and channelized flow in this case is indirect.

At least 48% of the comingled flow which issues from Boreholes 7-7C is within the permitting authority of the State Water Board, regardless of the magnitude of the flow. Therefore, once Nestlé has diverted (from any source or combination of sources) the full 7.26 ac-ft of water available under the pre-1914 water right identified in Section 4.3.2, Nestlé must mitigate or eliminate the diversion of any additional water within the SWRCB's permitting authority that is comingled with percolating groundwater from Boreholes 7-7C. However, the State Water Board does not require diverters to distinguish between individual molecules of water to determine which can be diverted. Instead, the Board typically relies on mass balance accounting methods to prevent unauthorized diversions.

Possible methods to prevent or mitigate for unauthorized diversions from Boreholes 7-7C may include, but are not necessarily limited to, releasing 48% of the comingled flow from Boreholes 7-7C back into the natural channel or extracting 100% of the commingled flow 52% of the time. However, the method chosen by Nestlé must be in compliance with California's constitutional prohibition against waste and unreasonable use, must not result in injury to senior water rights holders or to public trust resources, and must not result in the extraction of more water than would have been available at a given instant of time under natural hydrogeologic conditions (i.e., natural hydrologic pressures). Potential mitigation methods may also be limited by Nestlé's 2018 SUP, which requires Nestlé to "ensure that water will not be extracted in excess of the [permitholder's] ability to store or transport water without waste or spillage from local storage."

4.4.5 Boreholes 10, 11, 12

According to Dames and Moore (1999), these points of diversion were developed by installing boreholes near springs, but not at spring orifices. These horizontal boreholes are up to several hundred feet long and are located entirely upgradient of the Waterman Canyon Fault, which likely acts as a hydrological barrier preventing subsurface flow downgradient. The geology and topography of the site indicates that spring flow would reach a natural surface channel either by overland flow to the nearby stream or by percolation and subsurface flow to the stream. Any spring flow that infiltrates into the meadow would flow downgradient and surface at the toe of the meadow where perennial Strawberry Creek begins.

Dames & Moore (1999) indicates that there is no known change in spring flow when the borehole valves are opened. However, the report did not state the length of time the springs were tested, and field data from these measurements were not included in the report appendices. The study design may not have been appropriate for determining impacts over time and impacts to other springs in the area. Additionally, the boreholes may be diverting water that would otherwise flow below ground surface from the fractured bedrock to meadow alluvium/colluvium, and then discharge to streamflow via springs at the toe of the meadow. The observed spring at the toe of the meadow was approximately 70 feet downgradient from the Borehole 10 vault.

Based on the hydrology of the site and reported flow from the springs, diverted flow may be entirely developed water, and it is unknown what portion of the developed water may

have reached a natural surface channel. At this time, the Division does not have any evidence that extractions from Boreholes 10, 11, and 12 impact other springs or streamflow. Unless or until additional information indicates otherwise, the water extracted from Boreholes 10, 11, and 12 does not appear to be within the permitting authority of the State Water Board. This evaluation should be reviewed and possibly revised after further data collection and analysis, including evaluation of impacts on spring flow at the toe of the meadow..

The 2018 AMP sets an initial minimum streamflow goal in the tributary of Strawberry Creek below Boreholes 10, 11, and 12 and states that the flow of the stream "is hypothesized to be directly affected by extraction at boreholes 10, 11, 12, and indirectly by tunnels 2, 3 and boreholes 7, 7A, 7B, 7C." The AMP requires Nestle to conduct a study of hydrologic conditions to determine appropriate actions to support the initial minimum flow goal. Data and information from the AMP studies may provide information that support a reevaluation of what portion of water from Boreholes 10, 11, and 12, if any, is within the permitting authority of the State Water Board.

4.5 Available Water in the Santa Ana River

While most of the water diverted by Nestlé in Strawberry Canyon lacks a basis of right, Nestlé is not precluded from applying for a post-1914 appropriative water right for the water diverted by Nestlé's predecessors up to the time of the 1964 fully-appropriated stream determination in Decision 1194 (1964). The maximum diverted by Nestlé's predecessors, prior to 1964, was 257 AF in 1952, including the 7.26 AFA that may be claimed under a pre-1914 basis of right based on the 1909 Contract. Nestlé would have to seek an exemption from the Declaration of Fully Appropriated Streams, like Orders WR 2000-12 and WRO-2002-0006. However, the actual determination of water availability and whether Nestlé could now obtain an appropriative water right would occur during the water right permitting process.

4.6 Evaluation of Allegations

4.6.1 Allegation of operating without a valid permit (Leiski)

The alleged invalid permit was the SUP issued by the US Forest Service in 1976, over which the State Water Board has no jurisdiction. The court decided in the case *Center for Biological Diversity, et al. v. US Forest Service, et al.*, 2015 that the 1976 US Forest Service SUP is valid until the US Forest Service issues a new SUP. The case was settled on June 6, 2018 after the U.S. Forest Service agreed to promptly issue a decision either granting or denying a new special-use permit for Nestlé's operation.

4.6.2 Allegation of Chain of Title Issues (Frye, anonymous)

Two complainants (Frye, anonymous) suggested that the water right was not passed successfully from CCWC to Nestlé, specifically focusing on transfers from 1969 on. OE counsel reviewed the chain of title provided by Nestlé and indicated that the water rights held by ASC likely passed to Nestlé. The chain of title shows a continuous chain of owners from the Arrowhead Springs Corporation to Nestlé.

These Arrowhead water rights include a pre-1914 claim that may be valid for diversion and use of up to 7.26 AFA based on the 1909 Contract. Documents provided by Amanda Frye, also reviewed by OE counsel, did not include any documents indicating that the water rights were lost.

4.6.3 Allegation of Unreasonable Use (Eichler) and Injury to Public Trust Resources (Loe, The Story of Stuff Project)

One complainant (Eichler) and hundreds of signers of a petition submitted to the State Water Board suggest that bottling water in a time of drought is an unreasonable use of water. The Water Code recognizes that not every beneficial use has equal priority and states that domestic use is the "highest use of water" and that irrigation is the next highest use (Water Code Sec. 106). The State Water Board has previously applied a series of factors as guidance in determining whether a waste or unreasonable use of water is occurring. The factors are: 1) Other potential beneficial uses for conserved water; 2) whether the excess water serves a reasonable and beneficial purpose; 3) the amount of water reasonably required for current use; 4) the availability of a physical plan or solution; 5) the amount and reasonableness of the cost of saving water; 6) whether the required methods of saving water are conventional and reasonable rather than extraordinary; and 7) the probable benefits of water savings. (OE, 2020.) Not all factors apply or apply equally in every case. (*Ibid*.)

Bottling water is an industrial use of water, which is a beneficial use described under the California Code of Regulations.[59] At present, there is insufficient information for Division enforcement staff to conclude that Nestlé's use of water for industrial purposes constitutes an ongoing misuse of water.

Nestlé's use of water could, however, be unreasonable if it injures public trust resources, such as instream habitat for certain species, in such a way that it outweighs the beneficial use. Two complainants (Loe, The Story of Stuff Project) allege Nestlé's diversions injure public trust resources. At present, the Forest Service and Nestlé are developing an adaptive management plan to mitigate the impacts of Nestlé's water diversion and extraction. The Forest Service is the appropriate agency to address the environmental impacts in this case. Should information become available indicating that Nestlé's diversions are injuring environmental resources that will not be mitigated, the Division may further investigate the possible injury under its public trust authority and determine if other appropriate remedies are necessary.

4.6.4 Allegation of Non-Reporting (anonymous)

An anonymous complainant alleged that Nestlé is not reporting to "mandated monitoring programs such as CASGEM." However, Nestlé has reported annual diversions under the Groundwater Recordation Program, and this is the only required reporting to the Division at this time. Nestlé and predecessors have been reporting under the Groundwater Recordation Program since 1957 to either the State Water Board or to the designated local oversight agency, Western Municipal Water District and/or the SBVMWD. Diversion data going back to 1947 is available from SBVMWD upon request.

[59] Cal. Code Regs. Tit. 23 § 665

The Nestlé PODs are outside of the local adjudicated basin and the local groundwater basin included under the CASGEM and Sustainable Groundwater Management Act (SGMA) programs.

While Nestlé's groundwater recordation reporting is up to date, some reporting issues remain. Nestlé's diversions are reported under the ownership name "Arrowhead Drinking Water Company", which is not the current name of the POD owner. Under existing code[60] and regulations,[61] as long as Nestlé is diverting and reporting at least 25 AFA of groundwater not within the permitting authority of the State Water Board, any surface water diversions authorized under other valid water rights, such as a riparian or pre-1914 claim, may be reported under the Groundwater Recordation Program.

4.6.5 Allegation of Diverting Without a Valid Basis of Right (Loe, Frye, The Story of Stuff Project)

Three complainants (Loe, Frye, and The Story of Stuff Project) allege that Nestlé is diverting water without a valid basis of right. Nestlé likely has a pre-1914 right for an amount no greater than 7.26 AFA based on Division enforcement staff's review of the 1909 Contract, and Nestlé may hold appropriative groundwater rights not within the permitting authority of the State Water Board for developed groundwater. Diversion of any water within the permitting authority of the State Water Board without a valid water right permit or license is unauthorized. Nestlé has likely diverted, and continued to divert, water without a valid basis of right based on determinations stated in Section 4.4.

Frye alleges that any pre-1914 rights only attach to diversions at the site of the possessory claim by David Noble Smith in 1865. However, this claim is not applicable to any pre-1914 water right, identified by Division enforcement staff, and PODs can be changed to other sites within a stream's respective watershed for diversions under a pre-1914 water right.[62]

5 CONCLUSIONS

Based on review of available information, Division enforcement staff has concluded the following:

1. Nestlé's claim to a pre-1914 water right that originates from an 1865 possessory claim by David Noble Smith is not valid because the possessory claim only established a riparian right to water. Nestle's claim to a pre-1914 water right, whether based on the David Noble Smith possessory claim or based on acquisition of land identified in the 1930 title company report, is not valid for Nestlé's current appropriative diversion and use of water from the San Bernardino National Forest. Water was bottled within the Arrowhead Hotel property, but this was a riparian use and not an appropriation.

[60] Water Code § 5002
[61] Cal.Code Regs. Tit. 23 § 930
[62] Water Code § 1706

2. Nestlé may claim an appropriation of up to 7.26 AFA under a pre-1914 basis of right, based on a 1909 contract to appropriate up to 7.26 AFA for delivery to a company with bottling facilities in Los Angeles. This is the earliest Division staff could identify an appropriation or plan of development. The larger bottling plant that opened in downtown Los Angeles in 1917 could not expand the pre-1914 appropriation because it was not part of the originally contemplated plan of development.

3. Nestlé likely has an appropriative groundwater claim to an unknown amount of percolating groundwater from Boreholes 7, 7A, 7B, 7C, 10, 11, and 12 that would not have flowed in a natural surface channel elsewhere in the watershed. Division staff estimates that up to 52% of the water from Boreholes 7, 7A, 7B, and 7C and up to 100% of the water from Boreholes 10, 11, and 12 may be percolating groundwater. Division staff acknowledges that these percentages are based on the limited available information at the time of the investigation and may be revised if new information becomes available.

4. Nestle's diversions and use of water greater than 7.26 AF during a calendar year consisting of the combined diversions from Spring Tunnels 2, 3, and 7 and Boreholes 1, 1A, 8, 7, 7A, 7B, and 7C that are within the permitting authority of the State Water Board are unauthorized diversions. At this time, Division enforcement staff does not have information on any mitigation measures implemented by Nestlé to prevent unauthorized diversions.

5. While Nestlé may be able to claim a valid basis of right to some water from the Strawberry Creek watershed, a significant portion of the water currently diverted by Nestlé appears to be diverted without a valid basis of right.

6. Nestlé cited the stipulated judgment in *Del Rosa Mutual Water Company v. D.J. Carpenter, et al.*, No. 31798, San Bernardino County Superior Court, October 31, 1931 (*Del Rosa* Judgment), as a basis of right. While the parties to the *Del Rosa* Judgment agreed not to restrict Nestle's predecessor in interest from taking and exporting water from the East Twin Creek watershed, they did not recognize that Nestle's predecessor in interest held any water rights either. The diversion and use of water recognized in the *Del Rosa* Judgment would have required a permit insofar as it was based on an appropriation initiated after 1914 and within the State Water Board's permitting authority. Furthermore, the Board was not a party to the *Del Rosa* Judgment, and while judgments warrant consideration, they only bind those who were parties.

7. Nestlé is not precluded from applying for a water right permit for water under the right recognized in the *Del Rosa* Judgment. Because the Santa Ana River Watershed was declared fully-appropriated in 1964, the actual determination of water availability and whether Nestle could now obtain an appropriative water right would occur during the water right permitting

process.

8. The US Forest Service issued a new SUP to Nestlé on June 27, 2018 for the extraction and transmission of water using existing facilities within the San Bernardino National Forest. The SUP requires studies, monitoring, and adaptive management measures that will characterize and mitigate the impact of Nestlé's diversion on public trust resources in Strawberry Canyon. The SUP has a five-year term, with an initial permit term of three years and discretionary annual permits for two additional years. The Adaptive Management Plan (AMP) studies conducted by Nestlé under the SUP are ongoing for a period of three years, and data and information from these studies may provide a better understanding of the hydrogeology of the Strawberry Canyon watershed sources.

9. There is insufficient information to determine if Nestlé's authorized diversions cause injuries to public trust resources that outweigh the beneficial use.

5.1 Approximate Quantification of Diversions Under Bases of Right

Table 5 below summarizes approximately how much water was diverted under each basis of right, using 1998, the year in which maximum annual diversions occurred, as an example. Appendix E tabulates reported diversion amounts from each point of diversion for each year of operation and indicates if there were unauthorized diversions in a given year. Since Nestlé diverted less water in other years, its unauthorized diversions (volume exceeding 7.26 AFA and diversions of percolating groundwater not within State Water Board authority) would have been less.

Table 5. Basis of Right and Amounts Diverted for 1998

BASIS OF RIGHT	AMOUNT	1998 AMOUNT
Pre-1914	Up to 7.26 AFA, from any combination of sources including at least 48% of Boreholes 7-7C production	Up to 7.26 AFA
Appropriative Claim to Percolating Groundwater (not subject to SWRCB)	Up to 100% of Boreholes 10, 11, 12 production (likely less); and Up to 52% of Boreholes 7-7C production (likely less)	Up to 32 AFA from Boreholes 10, 11, 12 Up to 94 AFA from Boreholes 7-7C
Unauthorized	All other diversions	372.74 AF or greater
Total		506 AF

Nestlé likely has a pre-1914 appropriative right for an amount up to 7.26 AFA, including developed water within the permitting authority of the State Water Board. Under California law, most of the water being diverted by Nestlé from the Strawberry Canyon springs and boreholes is presumed to be natural surface flow or developed water that would have surfaced elsewhere in the watershed and flowed in a natural surface channel. Such water is within the permitting authority of the State Water Board, and diversion of such water is

therefore unauthorized unless diverted under a pre-1914 claim or other valid basis of right. Some amount of the water diverted from the Strawberry Canyon springs and boreholes may be developed water that would *not* otherwise flow in a natural surface channel, and appropriation of this groundwater would *not* be within the permitting authority of the State Water Board.

Based on available information, Division enforcement staff determined that up to approximately 52% of water diverted from the Spring 7 boreholes (Boreholes 7-7C), on an annual basis, and up to all of the water from the Lower Springs Complex boreholes (Boreholes 10, 11, and 12) may be percolating groundwater and not within the permitting authority of the State Water Board. The total amount Nestlé could have diverted in 1998 under a pre-1914 claim was 7.26 AFA. Nestlé could have diverted up to 32 AFA as percolating groundwater from the Lower Springs Complex (Boreholes 10, 11, and 12). Nestlé could have diverted up to an additional 94 AFA in 1998 from Boreholes 7-7C, if it had utilized appropriate mitigation measures such as releasing 48% of the flow from Boreholes 7-7C back into the natural channel or extracting 100% of the flow 52% of the time, among other appropriate measures. As stated previously, the amount of percolating water not within the permitting authority of the State Water Board from the Spring 7 boreholes and the Lower Springs complex should be reviewed and possibly revised after further data collection and analysis.

Detailed hydrological studies showing how diversions impact streamflow are needed to confirm or determine the actual amount of developed water that would or would not surface elsewhere in the watershed. Data and information from studies conducted by Nestlé under the Forest Service SUP may provide a better understanding of the hydrogeology of the Strawberry Canyon watershed sources.

6 REVISED RECOMMENDATIONS

Division enforcement staff recommend no further action on the allegations of unreasonable use and injury to public trust resources at this time. If future hydrologic and riparian studies indicate that Nestlé's diversion of water injures public trust resources in a way that cannot be mitigated by implementation of the adaptive management plan as part of the Forest Service Special Use Permit process, the Division should revisit this issue.

Division enforcement staff recommends that Nestlé immediately cease all unauthorized diversions. Division enforcement staff therefore recommends Nestlé take the following Compliance Actions:

1. Immediately cease all unauthorized diversion of water within the State Water Board's permitting authority until demonstrating, to the satisfaction of the Deputy Director, a valid basis of right. Unauthorized diversions occur if, during a calendar year, the total quantity of water that Nestlé diverts and uses from Spring Tunnels 2, 3, and 7 and Boreholes 1, 1A, 8, 7, 7A, 7B, and 7C is greater than 7.26 acre-feet of water that is subject to Division 2 of the Water Code, although this criteria may be revised based on findings of the Deputy Director in recommended Compliance Actions 6 and 7 of this ROI.

2. No less than 30 days after issuance of this ROI:

    a. Update ownership of Groundwater Recordations.

    b. File a Statement of Water Diversion and Use, pursuant to Water Code section 5101, for any diversion requiring a statement.

3. No less than 180 days after issuance of this ROI, submit a report with evidence acceptable to the Deputy Director demonstrating implementation of recommended Compliance Action 1 of this ROI. The report must include a description of the methods used to determine that no more than 7.26 acre-feet of water within the State Water Board's permitting authority has been diverted annually from Spring Tunnels 2, 3, and 7 and Boreholes 1, 1A, 8, 7, 7A, 7B, and 7C each calendar year.

4. By June 30 of each year, submit a monitoring report for the previous calendar year to report the daily, monthly, and annual diversions of water within the permitting authority of the State Water Board from Spring Tunnels 2, 3, and 7 and Boreholes 1, 1A, 8, 7, 7A, 7B, and 7C. This report is not required to the extent the information is duplicative of information in the report submitted in compliance with recommended Compliance Action 3 of this ROI.

5. When a report for each study conducted for the US Forest Service SUP is provided to the US Forest Service, provide a copy to the Division.

6. Within 180 days of completing studies conducted for Objectives 1 and 2 of the US Forest Service SUP AMP, submit a report more precisely determining the amount of flow at Spring Tunnels 2, 3, and 7 and Boreholes 1, 1A, 8, 7, 7A, 7B, and 7C that is water that originally surfaced naturally as a spring and is therefore subject to the permitting authority of the State Water Board, based on information and analysis from the studies. If this determination is infeasible, Nestlé must explain the infeasibility. The Deputy Director may, based on a review of that report, refine the conclusions of the revised ROI regarding how much water diverted at each POD is subject to the permitting authority of the State Water Board.

7. Within 180 days of completing studies conducted for Objectives 1 and 2 of the US Forest Service SUP AMP, submit a report more precisely determining the amount of flow at Boreholes 10, 11, and 12 that if not diverted would have otherwise surfaced naturally at a spring. If this determination is infeasible, Nestlé must explain the infeasibility. The Deputy Director may, based on a review of that report, refine the conclusions of the revised ROI regarding how much water diverted at each POD is subject to the permitting authority of the State Water Board.

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