

RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Warren Act Contract for Merced Irrigation District Transfer of up to 10,000 acre-feet to Westlands Water District

EA-11-073



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South-Central California Area Office
Fresno, California**

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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Section 1 Purpose and Need for Action

1.1 Background

Westlands Water District (WWD) and Merced Irrigation District (MID) have agreed to transfer up to 10,000 acre-feet (AF) of MID non-CVP water to WWD in water year 2012-2013. WWD is requesting that Reclamation approve a Warren Act Contract (WAC) under contract # 14-06-200-495A-IR3 for the period from October 1, 2012 through September 30, 2013. The transferred water would supplement a deficient Central Valley Project (CVP) water supply and would be used for irrigation on existing lands in WWD that currently receive CVP water. Concurrently with this request, MID has petitioned the State Water Resources Control Board for a change in place of use and point of diversion and has identified a reservoir refill requirement for the water transfer as part of that request.

1.2 Purpose and Need

WWD experienced reduced water supply allocations in 2007, 2008, 2009 and 2010 due to hydrologic conditions and regulatory constraints. Following an above-average water year in 2011, the hydrologic conditions for 2012 are dry, and WWD needs to supplement its supplies to avoid shortages and loss of permanent crops. The purpose of executing the proposed WAC is to allow for the conveyance of MID's water through Federal facilities to WWD.

1.3 Reclamation's Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action

Several Federal laws, permits, licenses and policy requirements have directed, limited or guided the National Environmental Policy Act analysis and decision-making process of this Environmental Assessment (EA) and include the following as amended, updated, and/or superseded (all of which are incorporated by reference):

Central Valley Project Improvement Act

CVPIA Section 3405(a) authorizes all individuals or districts who receive CVP water under water service or repayment contracts, water rights settlement contracts or exchange contracts to transfer, subject to certain terms and conditions, all or a portion of the water subject to such contract to any other California water users or water agency, State or Federal agency, Indian Tribe, or private non-profit organization for CVP purposes or any purpose recognized as beneficial under applicable State law.

CVPIA, Section 3408(c), authorizes the Secretary of the Interior to enter into contracts pursuant to Reclamation law and this title with any Federal agency, California water user or water agency, State agency, or private nonprofit organization for the exchange, impoundment, storage, carriage, and delivery of CVP and non-CVP water for domestic, municipal, industrial, fish and wildlife,

and any other beneficial purpose, except that nothing in this subsection shall be deemed to supersede the provisions of section 103 of Public Law 99-546 (100 Stat. 3051).

Reclamation completed the Final Programmatic Environmental Impact Statement for the CVPIA in October 1999 that analyzed alternatives and implementation of the CVPIA. The Record of Decision was signed on January 9, 2001.

Warren Act

The Warren Act (Act as of February, 21, 1911, CH. 141, (36 STAT. 925)) authorizes the Bureau of Reclamation (Reclamation) to negotiate agreements to convey non-CVP water when excess capacity is available in Federal facilities.

Water Transfer Authority Delegation

Reclamation area offices are authorized to approve certain water transfer actions directly without review or approval by the Regional office. This authority is outlined in the Mid-Pacific Regional Director's Letter entitled "Delegation of Regional Functional Responsibilities to the Central Valley Project (CVP) Area Offices – Water Transfers", March 17, 2008.

Water Quality Standards

Reclamation requires that the operation and maintenance of CVP facilities shall be performed in such a manner as is practical to maintain the quality of raw water at the highest level that is reasonably attainable. Water quality and monitoring requirements are established annually by Reclamation and are instituted to protect water quality in federal facilities by ensuring that imported non-CVP water does not impair existing uses or negatively impact existing water quality conditions. These standards are updated periodically. The water quality standards are the maximum concentration of certain contaminants that may occur in each source of non-CVP water. The water quality standards for non-CVP water to be stored and conveyed in federal facilities are currently those set out in Title 22 of the California Code of Regulations.

1.4 Scope

This EA is being prepared to examine the possible impacts of approving the WAC, over a period of one year, for the conveyance of up to 10,000 AF of MID's non-CVP water to WWD. The EA also examines the possible impacts of the No Action alternative.

MID is located in Merced County and WWD is located in western Fresno and Kings counties (Figure 1-1).

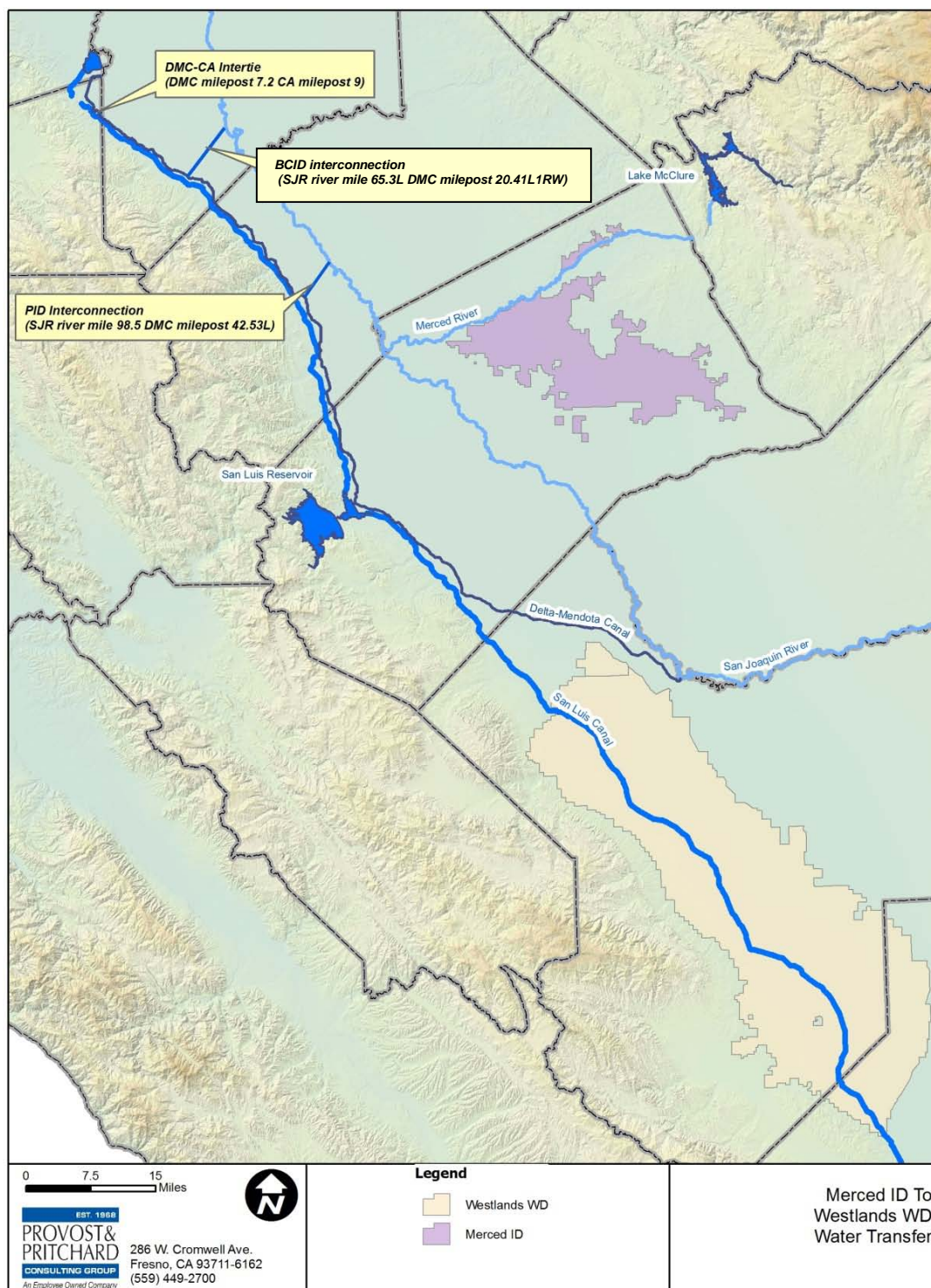


Figure 1-1 Overall Location Map

1.5 Resources Requiring Further Analysis

This EA will analyze the environment affected by the Proposed Action and No Action alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Biological Resources
- Environmental Justice
- Socioeconomic Resources
- Global Climate

Section 2 **Alternatives Considered**

This EA considers two possible actions: the No Action alternative and the Proposed Action. The No Action alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

Under the No Action alternative, Reclamation would not approve the WAC for the conveyance of up to 10,000 AF of MID's non-CVP water to WWD. WWD would look for other water supplies to supplement its water portfolio. Absent this transfer, water available for acquisition from MID would remain in storage within Lake McClure for and be put to other beneficial uses by MID.

2.2 Proposed Action

Reclamation proposes to approve a conveyance Warren Act Contract with an exchange component for the delivery, over a period of one year, of up to 10,000 AF of MID's non-CVP water to WWD. The path by which the water would be delivered is shown with solid red arrows in Figure 2-1 and described below.

The transferred water would be released from storage in Lake McClure/New Exchequer dam by MID beginning in October 2012, and conveyed in the Merced and San Joaquin River. The water released would be over and above the flows required to maintain compliance with the water quality and quantity requirements established by the State Water Resources Control Board's Decision 1641 (D-1641) and would not interfere with scheduled fall pulse flows. This action would not impair the California Department of Water Resources (DWR) or Reclamation's ability to meet their other obligations and responsibilities.

Patterson Irrigation District

Water would be pumped at the Patterson Irrigation District's (PID) licensed fish screened intakes, which are designed to limit entrainment and impingement of fish during pumping. PID would pump and convey up to 40 cfs, measured by the San Luis and Delta-Mendota Water Authority (SLDMWA) at the discharge, to the Delta-Mendota Canal (DMC). The water would then be transported in the DMC into the O'Neill Forebay for conveyance to WWD through the San Luis Canal. It is WWD's preference to pump at maximum capacity continually for the first 30 days. After the initial period, water would be delivered at varying amounts until the total volume of 10,000 acre-feet is reached.

If the DMC is being used to convey CVP water and there is no capacity to move this water, the DMC-California Aqueduct Intertie (Intertie) could be used to convey the transfer water in the California Aqueduct. WWD has an existing Wheeling Agreement with DWR for this type of movement. However a Letter of Agreement for Project Use Power would be needed from Reclamation to cover power costs, and an exchange agreement may be necessary between Reclamation and WWD, depending on where in the system capacity is limited.

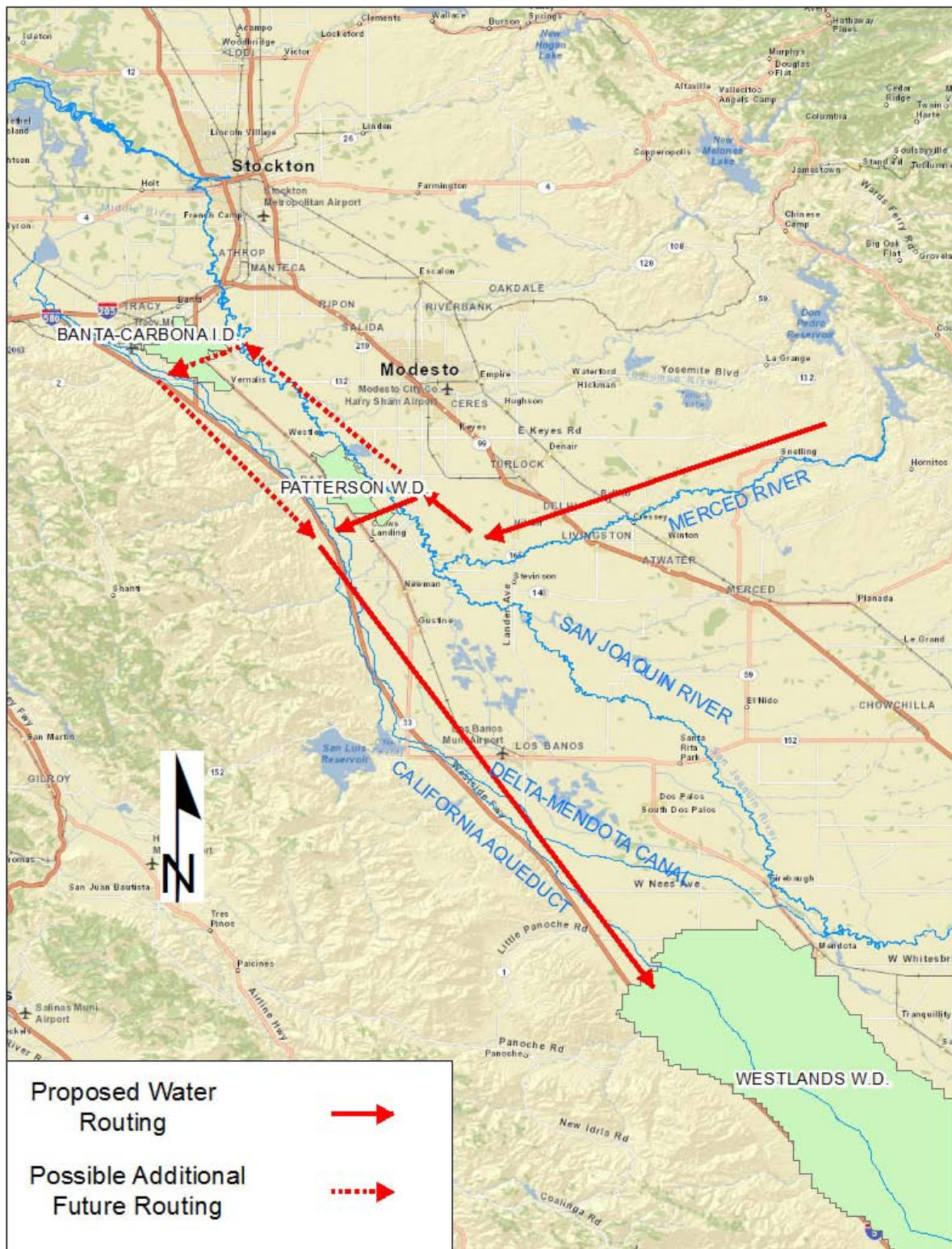


Figure 2-1 Proposed Water Movement (Conceptual)

Banta-Carbona Irrigation District Option

WWD and MID have also expressed an interest in routing some of the proposed transfer water through the Banta-Carbona Irrigation District (BCID). This additional path is shown with dashed red arrows in Figure 2-1. BCID's facilities would provide additional capacity of up to 60 cfs (as measured by SLDMWA at the discharge) to the DMC. Currently the BCID option presents a variety of operational challenges due to additional regulatory requirements associated with Delta flows. The BCID option is not being included in the action at this time, but could be pursued after additional analysis.

Conveyance losses assessed throughout the system would depend on whether it is necessary to route water through the California Aqueduct. See Table 2-1.

Table 2-1 Conveyance Losses by Conveyance Method

	San Joaquin River	Federal Facilities	State Facilities	Total
Federal Facilities Only	10%	5%	-	15%
Intertie Used	10%	3%	2%	15%

The transfer would utilize existing facilities and no new infrastructure, modifications of facilities, or ground disturbing activities would be needed for movement of this water. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions.

2.2.1 Permits

Section 401 of the Clean Water Act [CWA] (33 U.S.C. § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 U.S.C. § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit (Section 404) to first obtain certification from the state that the activity associated with dredging or filling would comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA are not required.

2.2.2 Environmental Commitments

There are no additional environmental commitments required for Reclamation's action beyond what has been implemented under separate actions and documentation.

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Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the No Action alternative and the Proposed Action, in addition to environmental trends and conditions that currently exist.

3.1 Water Resources

3.1.1 Affected Environment

Merced Irrigation District

MID owns, operates, and stores its water from two primary sources, the New Exchequer and McSwain dams and reservoirs (Lake McClure and Lake McSwain respectively). Both have Federal Energy Regulatory Commission licensed hydroelectric facilities and are located on the Merced River. MID's water supply from Merced River diversions is approximately 550,000 AF per year. Lake McClure has a capacity of approximately 1,024,600 AF and Lake McSwain has a capacity of approximately 9,730 AF. MID facilities include 825 miles of canals and laterals, of which 620 miles are dirt-lined, 108 miles are concrete-lined and 97 miles are piped (Reclamation 2011).

Patterson Irrigation District

PID has a point of diversion of pre-1914 appropriative rights on the San Joaquin River at river mile 98.5, located about 3.5 miles east of the City of Patterson (Figure 3-1). PID completed construction of a new 195 cfs, National Marine Fisheries Service (NMFS) approved fish screen and diversion pump station at its San Joaquin River diversion facility in 2011. The pump station is outfitted with stainless steel, high-profile bar screens rated to prevent entrainment and impingement of steelhead and Chinook salmon in the San Joaquin River. This pump station conveys water into PID's main canal lift system.

The PID main canal lift system includes approximately four miles of concrete-lined open channel, and 5 additional pump stations (excluding the San Joaquin River Fish screen) capable of moving water into 5 separate canal lift segments. The pump stations range in capacity from 195 cfs to 40 cfs, and includes 35 electrically driven pumps ranging in size up to 350 horsepower. The main canal system is automated, with each pump station relying on downstream level control to maintain water levels in each canal segment, which prevents and limits operational spills.

At the end of the PID main canal, PID maintains existing intertie facilities, capable of conveying approximately 40 cfs to the DMC. PID's existing discharge facility into the DMC from the PID main canal is located at DMC milepost 42.53L, and PID is currently in the process of expanding its facilities to increase its capacity to convey up to 250 cfs into the DMC.

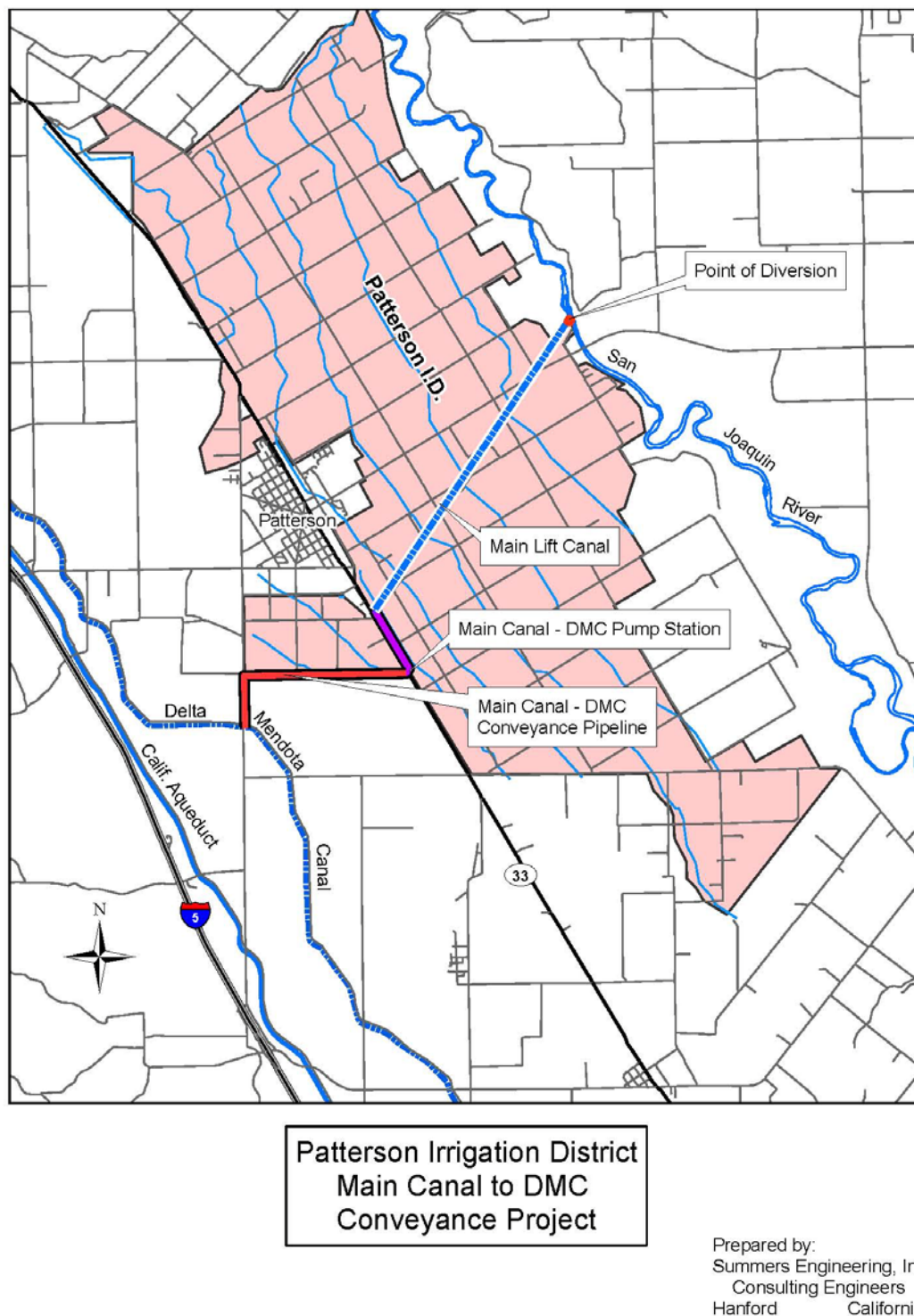


Figure 3-1 Patterson Irrigation District to Delta-Mendota Canal Interconnection

Westlands Water District

WWD encompasses more than 600,000 acres of farmland located in western Fresno and Kings counties and serves approximately 600 family-owned farms that average 900 acres in size. WWD is a long-term CVP contractor with a contract for 1,150,000 AF. WWD is located on the

west side of the San Joaquin Valley and is a part of the San Luis Unit of the CVP, which is administered by Reclamation. The San Luis Unit receives water from the CVP through the DMC and the San Luis Canal (SLC). Water is delivered directly to land in the San Luis Unit from the Sacramento-San Joaquin River Delta or is stored temporarily in San Luis Reservoir for later delivery. Once diverted from the CVP facilities, water is delivered to farmers through 1,034 miles of underground pipe and over 3,300 metered delivery outlets.

For purposes of the effect analysis, baseline conditions are described as conditions during the past five years. The five-year average allocation of CVP water supplies delivered to WWD and other South-Of-Delta contractors is described in Table 3-1. Allocations of CVP water are listed on a yearly basis for agriculture purposes from 2008 to 2012. The five-year average is 43 percent of contract amounts for agriculture. The annual contract amount for the WWD is 1,150,000 AF; thus the net baseline supply is 494,523 AF.

Table 3-1 Westlands Water District Water Supply History

Water Year	CVP Allocation ¹	Net CVP, AF ²	Groundwater, AF	Water User Acquired, AF	Additional District Supply, AF	Total Supply, AF	Fallowed Acres
2008	40%	332,547	460,000	85,421	117,537	995,505	99,663
2009	10%	195,716	480,000	68,070	77,424	821,210	156,239
2010	45%	570,732	140,000	71,296	98,569	880,597	131,339
2011	80%	842,552	45,000	60,380	226,044	1,173,976	59,514
2012 (est.)	40%	531,066	315,000	70,000	100,000	1,016,066	117,000
5-Year Average	43%	494,523	288,000	71,033	123,915	977,471	112,751

¹Final CVP water supply allocation for water year (100% = 1,150,000 AF)
²CVP allocation adjusted for carryover and rescheduled losses
Source: WWD 2012

In addition to the CVP supply, the other sources of water that make up WWD water supply portfolio are also shown. Landowners in WWD rely on groundwater pumping, water transfers, and WWD acquisitions to supplement the CVP supply. If the water portfolio comes up short, land is taken out of production (fallowed).

Water Quality

The water quality of the San Joaquin River is variable, depending on the location, time of year, and the contributing sources of inflows. Water quality is monitored at Vernalis, where the San Joaquin River enters the Delta and other sites within the watershed. At Vernalis the quality and volume of flow depends on several factors, including the contribution of flows from the Stanislaus, Tuolumne, and Merced rivers, and the contribution of agricultural return flows. Typically, the higher the San Joaquin River flow at Vernalis, the better the water quality entering the Delta. At times New Melones Reservoir is operated to maintain compliance with Vernalis water quality objectives. The average monthly electrical conductivity (EC) at Vernalis and in the DMC is shown in Table 3-2. (Reclamation 2012).

Table 3-2 Ten Year Average Water Quality, San Joaquin River and Delta-Mendota Canal

	SJR at Vernalis	DMC Headworks	DMC Check 20	DMC Check 21
Jan	646	535	655	665
Feb	696	541	597	598
Mar	669	518	592	568
Apr	409	396	575	537
May	296	351	552	513
Jun	406	323	481	428
Jul	497	285	342	327
Aug	530	352	400	398
Sep	534	420	474	464
Oct	459	424	487	473
Nov	665	449	511	501
Dec	709	558	619	602
Average	543	428	523	506
Ten-Year (2002-2011) Average Electrical Conductivity in μ mhos Source: California Data Exchange Center (DWR 2012)				

3.1.2 Environmental Consequences

No Action

Under the No Action alternative, the water available for acquisition from MID would remain in storage within Lake McClure and be put to other beneficial uses by MID. WWD would look for other water supplies to augment its water supply portfolio and to reduce groundwater pumping and fallowing.

Proposed Action

The transferred water would be released from storage in Lake McClure/New Exchequer dam by MID beginning in October 2012, and conveyed in the Merced and San Joaquin River. The water released would be over and above the flows required to maintain compliance with the water quality and quantity requirements established by the State Water Resources Control Board's Decision 1641 (D-1641) and would not interfere with scheduled fall pulse flows. This action would not impair the DWR or Reclamation's ability to meet their other obligations and responsibilities.

Patterson Irrigation District

Water would be pumped at PID's licensed fish screened intakes, which are designed to limit entrainment and impingement of fish during pumping. PID would pump and convey up to 40 cfs, measured by the SLDMWA at the discharge, to the DMC. The water would then be transported in the DMC into the O'Neill Forebay for conveyance to WWD through the San Luis Canal. It is WWD's preference to pump at maximum capacity continually for the first 30 days. After the initial period, water would be delivered at varying amounts until the total volume of 10,000 acre-feet is reached.

If the DMC is being used to convey CVP water and there is no capacity to move this water, the Intertie could be used to convey the transfer water in the California Aqueduct.

While the EC of the San Joaquin River water is slightly higher than the water in the DMC, the introduction of San Joaquin River water at the anticipated rates (from 1% to 3% of the 4,200 cfs capacity) is not anticipated to have an adverse effect on downstream users.

The Proposed Action would not affect CVP or SWP operations and would not change existing diversion points from the Delta under Reclamation's or DWR's water rights permits. The Proposed Action would not interfere with Reclamation's obligations to deliver water to other contractors, wetland habitat areas, or for other environmental purposes. This transfer would utilize existing facilities and no new infrastructure, modifications of facilities, or ground disturbing activities would be needed for movement of this water. No native or untilled land (fallow for three years or more) would be cultivated with water involved with these actions.

Cumulative Impacts

Cumulative impacts result from incremental impacts of the Proposed Action or No Action alternative when added to other past, present, and reasonably foreseeable future actions.

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action or the No Action alternative, the incremental effect of both alternatives were examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

As in the past, hydrological conditions and other factors are likely to result in fluctuating water supplies which drives requests for water service actions. Water districts aim to provide water to their customers based on available water supplies and timing, all while attempting to minimize costs. Farmers irrigate and grow crops based on these conditions and factors, and a myriad of water service actions are approved and executed each year to facilitate water needs. Each water service transaction involving Reclamation undergoes environmental review prior to approval. Existing or foreseeable projects, in addition to the proposed transfer from MID to WWD, which could affect or could be affected by the Proposed Action or No Action alternative, include the following:

San Joaquin River Restoration

The San Joaquin River Restoration Program (SJRRP) was established in late 2006 to implement the requirements of a settlement of NRDC, et al., v. Kirk Rodgers, et al. The goal of the SJRRP is to establish a self-sustaining population of fish, primarily salmon, in the portion of the San Joaquin River between Friant Dam and the Merced River while minimizing adverse impacts to water users (DWR 2012). A Final Program Environmental Impact Statement/Report was issued in July 2012.

Additional Point of Delivery for Byron-Bethany Irrigation District's Non-Project Water to Westlands Water District

Under a previous action (EA 09-156), Reclamation approved a Warren Act transfer of up to 10,000 AF of water by a variety of contractors to and through the Delta-Mendota Canal. In 2012 the previous approval was amended to allow up to 5,000 AF of the covered water to further be transferred to Westlands Water District. Reclamation issued Finding of No Significance (FONSI) 12-052 for this action on June 15, 2012.

Additional Point of Delivery for Patterson Irrigation District's Non-Project Water to Del Puerto Water District

This action is similar to what is described above for Byron-Bethany Irrigation District, except that up to 10,000 AF would be transferred from Patterson Irrigation District to Del Puerto Water District. Reclamation issued FONSI 12-054 for this action on July 17, 2012.

Vista Verde Temporary Annual Transfer of Settlement Contract Water to Vista Verde-Owned Lands within Westlands Water District

This action involved transfer of contract water from a property owned by Vista Verde farms to another property within Westlands Water District owned by the same company. Up to 1,140 AF are to be transferred each year from one property to the other. Reclamation issued FONSI 12-038 for this action on July 31, 2012.

Addition of Westlands Water District to the Arvin-Edison Water District and Westside Mutual Water Company Exchange Program

In 2011, Reclamation approved an exchange of up to 50,000 AF of water between Arvin-Edison Water Storage District and Westside Mutual Water Company Exchange. Reclamation is now considering allowing Westlands Water District to participate in the same exchange. The Supplemental Environmental Assessment (SEA 12-030) for that action is not yet complete.

Transfer from Central California Irrigation District and Firebaugh Canal Water District to San Luis, Panoche, Del Puerto and Westlands Water Districts

Under this project, up to 20,500 AF of CVP water could be transferred from Central California Irrigation District and Firebaugh Canal to San Luis, Panoche, Del Puerto and Westlands Water District. In addition, up to 5,000 AF could be transferred from Firebaugh Water District to San Luis and Westlands Water District. The transfers would take place between July 2012 to December 31, 2012 and April 1, 2013 to December 31, 2013. Reclamation issued FONSI 12-006 for this project on July 27, 2012.

Oro Loma Water District Partial Assignment to Westlands Water District

This action involved partial reassignment of Oro Loma Water District's CVP water allocation to Westlands Water District. 4,000 of Oro Loma's 4,600 AF of CVP contract water were assigned to Westlands to meet their in-district needs. Reclamation issued FONSI 11-092 for the project on February 27, 2012.

Westlands Water District Conveyance of Kings River Flood Flows in the San Luis Canal

Westlands Water District had an agreement with the Kings River Water Association to convey seasonal flood flows from the Kings River to lands within WWD's service area by way of their Laterals 6-1 and 7-1. However the land served by those laterals was retired and no longer needed the flood water. With this action, Reclamation allowed WWD to redirect up to 50,000 AF of the excess Kings River flood water to the San Luis Canal for use at other locations. Reclamation issued FONSI 11-002 for the project on January 26, 2012.

Delta-Mendota Canal Pump-In Project (2011-2012)

The DMC pump-in program allows the member agencies of the San Luis & Delta-Mendota Water Authority to pump groundwater into the DMC for delivery to contractors during the period of March 1, 2011 through February 28, 2013. The member agencies are limited to no more than 10,000 AF individually, and 50,000 AF as a group. Reclamation issued FONSI 10-072 for this project on February 28, 2011.

Delta-Mendota Canal Pump-In Project (2012-2013)

This project is similar to the DMC Pump-In Project above, but covers the time period from March 1, 2012 to February 28, 2013. Allowed water volumes are the same. Reclamation issued FONSI 12-005 for this project on May 8, 2012.

Delta-Mendota Canal Pump-In Project (2013-2024)

This project is similar to the DMC Pump-In Project above, but covers the time period from March 1, 2013 to February 29, 2024. Allowed water volumes are the same. Reclamation is considering this action under EA 12-061.

Byron Bethany Irrigation District Long-term Exchange Agreement. Reclamation has received a request from Byron Bethany Irrigation District to enter into a 40-year contract for the introduction of up to 4,725 AF per year of their non-CVP surface water in to the DMC for exchange with Reclamation. Reclamation is currently preparing EA 09-149 for the proposed project.

Banta-Carbona Option

WWD and MID have also expressed an interest in routing some of the proposed transfer water through BCID. Using BCID's facilities would allow additional capacity of up to 60 cfs to the DMC. This action would be evaluated as an amendment to the proposed action, or possibly as a separate but related action.

It is expected that sufficient capacity would be available to accommodate all of these actions at most times of the year. If capacity should be limited, some water would be routed through the California Aqueduct to allow all delivery obligations to be met.

Water service actions, like those described above, do not result in increases or decreases of water diverted from rivers or reservoirs. Each water service transaction involving CVP and non-CVP water undergoes environmental review prior to approval. The Proposed Action and No Action alternative and other similar projects would not interfere with the projects listed above, nor would they hinder the normal operations of the CVP and Reclamation's obligation to deliver water to its contractors or to local fish and wildlife habitat. Neither alternative, when added to other water service actions, would result in cumulative effects to surface water resources beyond historical fluctuations and conditions.

3.2 Biological Resources

3.2.1 Affected Environment

Historically, native habitat types in WWD consisted of valley sink scrub and saltbush, grasslands, wetlands and riparian habitat. Over the last few decades, much of the historic native grassland and wetland habitats have been converted to farmland, which requires importation of water for production.

Table 3-3 was prepared using a list obtained on July 5, 2012 by accessing the U.S. Fish and Wildlife Service (USFWS) Database:

http://www.fws.gov/sacramento/y_old_site/es/spp_lists/auto_list_form.cfm. For the list the following 7 ½ minute U.S. Geological Survey quadrangles were queried (Document No. 120705053713): Avenal, Broadview Farms, Burrel, Calflax, Cantua Creek, Chaney Ranch, Chounet Ranch, Coalinga, Coit Ranch, Domengine Ranch, Dos Palos, Firebaugh, Five Points, Gujarral Hills, Hammonds Ranch, Harris Ranch, Helm, Huron, Kettleman City, La Cima, Lemoore, Levis, Lillis Ranch, Monocline Ridge, San Joaquin, Stratford, Tranquillity, Tres Pecos Farms, Tumey Hills, Vanguard, Westhaven and Westside. Reclamation further queried the California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the service areas (CNDDB 2012). The information collected above, in addition to information within Reclamation's files (including data provided by MID), was combined to determine the likelihood of protected species occurrence within the action area.

The San Joaquin River in the Proposed Action area is Essential Fish Habitat (EFH) for fall-run Chinook salmon (migration, holding, rearing) and the Merced River is designated EFH for this run, either migration, holding, and rearing, or spawning and rearing, depending on the reach (http://swr.nmfs.noaa.gov/hcd/HCD_webContent/EFH/chinsalmon_map_fallrun.htm). These areas of both rivers also are opportunistic/intermittent spawning, holding and rearing EFH for the late fall run of Chinook salmon (http://swr.nmfs.noaa.gov/hcd/HCD_webContent/EFH/chinsalmon_map_latefallrun.htm).

Table 3-3 Federal Status Species for Westlands Water District.

Species	Status ¹	Effects ²	Summary basis for ESA determination
INVERTEBRATES			
vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	T	NE	No change in land use as a result of the Proposed Action.
valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	T	NE	No change in land use as a result of the Proposed Action.
vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	E	NE	No change in land use as a result of the Proposed Action.
FISH			
delta smelt (<i>Hypomesus transpacificus</i>)	T	NE	The Proposed Action area does not include the Delta.
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	T	NE	Effects to the species from pumping at the PID intake were addressed by NMFS (2007). Although the San Joaquin River and Merced Rivers in the action area are designated critical habitat, no effects are expected on steelhead due the change in flows, as water level changes would be minor on the Merced River, negligible on the San Joaquin River, no increase in turbidity or any scouring would occur, and the only temperature change would be a temporary (October only) decrease on the section of the Merced River just below New Exchequer Dam.
Central Valley spring-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	T	NE	The reintroduction of spring-run Chinook to the San Joaquin River has been delayed and would not occur until after the completion of the Proposed Action.

Species	Status ¹	Effects ²	Summary basis for ESA determination
winter-run Chinook salmon, Sacramento River (<i>Oncorhynchus tshawytscha</i>)	E	NE	The Proposed Action area does not include the Delta or the Sacramento River system.
AMPHIBIANS			
California tiger salamander, central population (<i>Ambystoma californiense</i>)	T	NE	No change in land use as a result of the Proposed Action.
California red-legged frog (<i>Rana draytonii</i>)	T	NE	No change in land use as a result of the Proposed Action.
REPTILES			
blunt-nosed leopard lizard (<i>Gambelia sila</i>)	E	NE	No change in land use as a result of the Proposed Action.
giant garter snake (<i>Thamnophis gigas</i>)	T	NE	No change in land use as a result of the Proposed Action.
BIRDS			
western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	T	NE	No change in land use as a result of the Proposed Action.
California condor (<i>Gymnogyps californianus</i>)	E	NE	No change in land use as a result of the Proposed Action.
MAMMALS			
giant kangaroo rat (<i>Dipodomys ingens</i>)	E	NE	No change in land use as a result of the Proposed Action.
Fresno kangaroo rat (<i>Dipodomys nitratoideis exilis</i>)	E, X	NE	No change in land use as a result of the Proposed Action.
Tipton kangaroo rat (<i>Dipodomys nitratoideis nitratoideis</i>)	E	NE	No change in land use as a result of the Proposed Action.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	E	NE	No change in land use as a result of the Proposed Action.
PLANTS			
California jewelflower (<i>Caulanthus californicus</i>)	E	NE	No change in land use as a result of the Proposed Action.
palmate-bracted birds-beak (<i>Cordylanthus palmatus</i>)	E	NE	No change in land use as a result of the Proposed Action.
San Joaquin woolly-threads (<i>Monolopia congdonii</i>)	E	NE	No change in land use as a result of the Proposed Action.
<p>1 Status= Listing of Federally protected species under the Endangered Species Act E: Listed as Endangered T: Listed as Threatened X: Critical Habitat designated for this species P: Protected under the Migratory Bird Treaty Act NMFS: Species under jurisdiction of National Oceanic & Atmospheric Administration Fisheries Service</p> <p>2 Effects = Endangered Species Act Effect determination NE: No Effect</p> <p>3 Definition of Occurrence Indicators Possible: Species and habitat recorded in area Absent: Species not recorded in study area and habitat requirements not met</p> <p>4 CNDDDB = California Natural Diversity Database 2012</p>			

3.2.2 Environmental Consequences

No Action

Under the No Action alternative, the water supply available for acquisition from MID would remain in storage within Lake McClure and be put to other beneficial uses by MID. WWD would continue to look for other water supplies to augment its water supply portfolio and to reduce groundwater pumping and fallowing. The No Action alternative would neither hinder nor enhance populations of upland special status species or their habitats. With regard to fish species, the two screened diversions would continue to operate during the subject time period. The screens serve to protect fish, but do nonetheless result in some impacts, due to fish potentially contacting the screen. These impacts would continue under the No Action Alternative.

Proposed Action

Under the Proposed Action, the water would be conveyed in existing facilities to established agricultural lands. No native lands or lands fallowed and untilled for three or more years would be disturbed as this water would be used on existing farmed lands. The Proposed Action would not affect migratory birds, imperiled species, unique habitats, or species and habitats protected by Federal or State law. The only impacts to Central Valley steelhead would be those already addressed by NMFS (2007). Essential Fish Habitat for the fall-run and late fall run Chinook salmon is not expected to be affected. Increased flows on the Merced River would be minor in terms of changing the water levels and lowering the water temperature, and would likely only overlap a small portion of the timeframe when the flows could be helpful to the salmon (i.e. only the last half of October).

Cumulative Impacts

The Central Valley steelhead currently is and has been subject to a large number of past impacts resulting from dam construction, pumping the south delta, water quality impacts resulting from agricultural runoff and mining. The only verified population in the eastside tributaries is a small run on the Stanislaus River. The Proposed Action would only contribute minor impacts due to the operations of the PID intake.

3.3 Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

3.3.1 Affected Environment

Fresno and Kings Counties rely to a large extent, either directly or indirectly, on agriculture for employment. Between 50.3 percent and 50.9 percent of the population within these counties is of Hispanic or Latino origin, which compares to 37.6 percent for the state as a whole (Table 3-4). The market for seasonal workers on local farms also draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, increasing populations within these small communities during peak harvest periods.

Table 3-4 2010 Demographics for Fresno and Kings Counties

	Total Population	White (not Hispanic)	Black or African American	American Indian	Asian	Native Hawaiian/Pacific Islander	Hispanic
Fresno County	930,450	32.7%	5.3%	1.7%	9.6%	0.2%	50.3%
Kings County	152,982	35.2%	7.2%	1.7%	3.7%	0.2%	50.9%
California	37,253,956	40.1%	6.2%	1.0%	13.0%	0.4%	37.6%

Source: U.S. Census Bureau 2011

3.3.2 Environmental Consequences

No Action

The No Action alternative would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations. Absent this transfer, water available for acquisition from MID would remain in storage within Lake McClure and be put to other beneficial uses by MID. WWD would seek water transfers from other sources to add to its water supply portfolio and reduce groundwater pumping in order to keep highly productive land under cultivation. This could potentially impact disadvantaged or minority populations due to the economic impacts to the agricultural industry and current water demands.

Proposed Action

The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations. The Proposed Action may support and maintain jobs that low-income and disadvantaged populations rely upon through increased irrigation water supply reliability.

Cumulative Impacts

The Proposed Action would maintain current conditions and employment opportunities for all demographic groups in the area. Cumulative adverse impacts to minority or low-income populations are not anticipated.

3.4 Socioeconomic Resources

3.4.1 Affected Environment

Unemployment for Kings and Fresno counties was 10.0 and 12.9 percent in 2009, which has since risen to 15.3 and 16.2 in 2011 (U.S. Census Bureau 2011). For 2009 and 2011, both counties were approximately four to six percentage points higher than the state average (Table 3-5). In addition, both counties had per capita incomes approximately \$8,000-\$11,000 lower than the State per capita income (Table 3-5).

Table 3-5 2011 Labor Force Data

	Labor Force	Employed	Per Capita Income¹	Unemployment Rate
Fresno County	431,400	361,400	\$20,329	16.2%
Kings County	61,200	51,800	\$17,875	15.3%
California	18,172,200	16,185,100	\$29,188	10.9%

Source: EDD 2011 and U.S. Census Bureau 2011

¹Amounts are based on 2010 numbers as the most recent data available from the U.S. Census Bureau.

The lands within WWD are primarily rural and in agricultural use. There are several communities and a few cities in the surrounding area that are homes for farm workers. In addition, there are small businesses that support agriculture such as feed and fertilizer sales, machinery sales and service, pesticide applicators, transport, packaging, marketing, etc.

3.4.2 Environmental Consequences

No Action

Under the No Action alternative, WWD would seek annual water transfers from other sources to add to its water supply portfolio to keep highly productive land under cultivation. Depending on the source of water used, this could increase costs for WWD's customers, reducing their profitability.

Proposed Action

Under the Proposed Action, the status quo of agriculture would be maintained. WWD would use the MID water to balance out local deficiencies in water supply and promote efficient irrigation of crops. The most productive farmland would remain in production. Seasonal labor requirements would have very little change, and businesses that support agriculture would not be financially harmed.

Cumulative Impacts

Over the long term, the Proposed Action would maintain current economic conditions within WWD as the transferred water would allow WWD's to continue to deliver the same amount of water as in the past. When added to other similar existing and proposed actions, the Proposed Action would help to maintain current economic opportunities within the area. No cumulative adverse effects are anticipated.

3.5 Air Quality

Section 176 (C) of the Clean Air Act [CAA] (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the EPA promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.5.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The air basin currently exceeds California state standards for ozone and particulate matter as well as the national standard for particulate matter smaller than 2.5 microns (PM_{2.5}). The air basin is in attainment for carbon monoxide, nitrous oxide and sulfur dioxide. See Table 3-6 below for more specific information.

Table 3-6 San Joaquin Valley Air Quality Status

Pollutant	California Attainment Status	National Attainment Status
O ₃	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment

Source: SJVAPCD 2012

3.5.2 Environmental Consequences

No Action

If no action were taken, WWD would seek an alternative source of water, which would be delivered by gravity feed or by pumping. Since no alternative source has been identified at this time, and it is not known how much electricity would be required or where it would be generated, power-related air emissions cannot be estimated with any certainty.

Proposed Action

Under the Proposed Action, delivery of this water would require no modification of existing facilities or construction of new facilities. The water would be moved either via gravity or electric pumps which use power from existing sources. Although generation of electricity would produce air emissions, the amount required for this project cannot be quantified because it would depend on where and how the electricity is generated, which is not known. Emissions would be quantified and appropriately regulated at the point of generation, i.e. the power plant.

Cumulative Impacts

Since air emissions from the power generation necessary to support the proposed action cannot be determined, cumulative impacts also cannot be reliably estimated. However, emissions from power generating plants are regulated, and regional air quality goals are a primary consideration when air permits are issued for those facilities. Any cumulative impacts as a result of power generation for this and other actions would be addressed by emission restrictions and other mitigation measures implemented by the air quality agencies.

3.6 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2011a)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO₂), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide (N₂O), and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2011b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the CAA as well as other statutory authorities to address climate change issues (EPA 2011c). In 2009, the EPA issued a rule (40 CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO₂ equivalents (CO₂e) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2011c).

3.6.1 Affected Environment

More than 20 million Californians rely on the SWP and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and CVP operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

3.6.2 Environmental Consequences

No Action

Under the No Action alternative, WWD would seek alternative sources of water, either from groundwater pumping or from other sources on the open market. Moving this water would require the use of electricity and result in associated emissions of greenhouse gases. However, since no alternative source has been identified at this time, quantities of electricity used and emissions generated cannot be reliably estimated.

Proposed Action

The Proposed Action involves movement of water by electrical pumps. The electricity used to power the pumps could come from a variety of sources, including hydropower, landfill gas or burning of traditional fossil fuels. The scenario with the highest emissions of GHGs would be the case where 100% of the power is produced from fossil fuels.

It is estimated that delivering the full quantity of water through PID's facilities would require pumping at 1200 horsepower for 126 days. This corresponds to approximately 2,707,000 kilowatt-hours (kwh) of energy used. Per EPA's GHG Equivalencies Calculator, production of this much power would produce estimated emissions for CO₂ equivalences of around 1,867 metric tons per year of CO₂e (EPA 2010). This is negligible compared to the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, operations under the Proposed Action would result in below de minimis impacts to global climate change.

Cumulative Impacts

GHG impacts are considered to be cumulative impacts. Full operation of the proposed project is estimated to produce no more than 1,867 metric tons of CO₂e, which is a de minimis amount compared to the threshold value of 25,000 metric tons. The Proposed Action, when added to other existing and proposed actions, would not contribute to significant cumulative impacts to global climate change.

3.7 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and No Action alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

Land Use

There would be no impact to land use under the No Action alternative as conditions would remain the same as existing conditions. Under the Proposed Action, neither WWD nor MID would change historic land and water management practices. MID's non-CVP water would move through existing facilities for delivery to lands within WWD and would be used on existing crops. The water would not be used to place untitled or new lands into production, or to convert undeveloped land to other uses. Therefore, there would be no change to land use.

Executive Order 11988 requires that all Federal agencies take action to reduce the risk of flood loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare. Floodplains are present at various locations throughout the central valley region. However the proposed action is not of a type with a potential to affect floodplains. No further evaluation or consultation is necessary.

Cultural Resources

There would be no impacts to cultural resources under the No Action alternative as conditions would remain the same as existing conditions. There would be no impacts to cultural resources

as a result of implementing the Proposed Action as the Proposed Action would facilitate the flow of water through existing facilities to existing users. No new construction or ground disturbing activities would occur as part of the Proposed Action. The pumping and conveyance of water would be confined to existing wells, pumps, and CVP facilities. On August 10, 2012, Reclamation determined that these activities have no potential to cause effects to historic properties pursuant to 36 Code of Federal Regulations (CFR) Part 800.3(a)(1).

Indian Sacred Sites

No impact to Indian sacred sites would occur under the No Action alternative as conditions would remain the same as existing conditions. Reclamation has determined that there would be no impacts to Indian sacred sites as a result of the Proposed Action since the Proposed Action would not limit access to or ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites.

Indian Trust Assets

No impact to Indian Trust Assets (ITA) would occur under the No Action alternative as conditions would remain the same as existing conditions. On August 8, 2012 Reclamation determined that the Proposed Action would not impact ITA as there are none in the Proposed Action area.

As there would be no impact to the resources listed above as a result of the Proposed Action or the No Action alternative, they would not be considered further.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation intends to provide the public with an opportunity to comment on the Draft EA and Draft Finding of No Significant Impact from September 28, 2012 to October 12, 2012.

4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (Federal and State) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the Service and State fish and wildlife agencies “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license”. Consultation is to be undertaken for the purpose of “preventing the loss of and damage to wildlife resources”.

The Proposed Action does not involve any new impoundment or diversion of waters, channel deepening, or other control or modification of a stream or body of water as described in the statute. In addition, no construction or modification of water conveyance facilities are required for movement of this water. Consequently, Reclamation has determined that the FWCA does not apply.

4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Reclamation has determined that the Proposed Action would not affect any Federally listed or proposed species or any critical habitat, and therefore consultation is not necessary. The EA and FONSI will be sent to the U.S. Fish and Wildlife Service and National Marine Fisheries Service when the document is released for public review.

4.4 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act,

the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg would be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

Reclamation has determined that the conveyance of up to 10,000 AF of MID's non-CVP water to WWD would not impact migratory birds. The Proposed Action would not change land use patterns, no ground disturbing activities would take place, and the transfer water would have been stored by MID in absence of the transfer; and thus, would not require additional diversions.

Section 5 List of Preparers and Reviewers

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Section 6 **Acronyms and Abbreviations**

BCID	Banta-Carbona Irrigation District
CFR	Code of Federal Regulations
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
DMC	Delta-Mendota Canal
DWR	California Department of Water Resources
EA	Environmental Assessment
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
GHG	Greenhouse gases
ITA	Indian Trust Asset
Intertie	DMC-California Aqueduct Intertie
MBTA	Migratory Bird Treaty Act
MID	Merced Irrigation District
NMFS	National Marine Fisheries Service
PID	Patterson Irrigation District
Reclamation	Bureau of Reclamation
SJRRP	San Joaquin River Restoration Project
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLC	San Luis Canal
SLDMWA	San Luis and Delta-Mendota Water Authority
USFWS	U.S. Fish and Wildlife Service
WAC	Warren Act Contract
WWD	Westlands Water District

Section 7 References

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DRAFT ENVIRONMENTAL ASSESSMENT (11-073)

Merced Irrigation District Transfer of up to 10,000 acre-feet to Westlands Water District

Appendix A
Public Comments

(Pending)