

Statement Number: S020789

SECTION D - REQUEST FOR ALTERNATIVE COMPLIANCE

(1a) Diverter is seeking alternative compliance from the requirement(s) checked below. *

- Measuring Device Location
- Required Accuracy

(1b) Provide additional information for each of the reasons selected in question 1a:

There are two measurement locations associated with this Statement of Water Use and Diversion for South Fork Pit River water. One of these measurement sites is located in an artificial ditch that conveys water diverted from the South Fork for use. Water from other, non-South Fork sources can also enter the ditch upstream of the site and flow through it as well. When water is received in the ditch from non-South Fork sources, water from the South Fork cannot be accurately quantified there. As such, the conditions at the measurement site are not optimal for evaluating (and subsequently satisfying) the accuracy requirement identified in the regulations. However, this site was considered the best possible monitoring location due to other factors that are described in greater detail in Parts (2b) and (3b).

Please see Part 2(b) for why this measuring was chosen further details.

(2a) Alternative compliance is being pursued because strict compliance with one or more of the requirements for measuring and monitoring (check all that apply): *

- Is not feasible

(2b) Provide additional information for each justification selected in question 2a:

One of the primary locations where water is diverted from the South Fork Pit River for use at the refuge is through an opening in the river bank on the right edge of the river shortly after it enters the property boundaries. When the water level in the South Fork reaches a certain elevation, it flows naturally through this gap. From a purely geographical standpoint, the gap is the optimal location for monitoring. However, due to the physical dimensions of the opening, lack of hydraulic drop, and limited accessibility of the location, it is not deemed to be a feasible location for a measurement device or site. Because of these conditions, another measurement site downstream of this location (identified in Part (1b)) is proposed to quantify waters coming through the gap.

(3a) Alternative compliance is requested under the following categories (check all that apply): *

- Point of diversion is inaccessible a portion of the year due to weather or other on-site conditions
- Other (provide complete description in section 3b)

(3b) Provide additional information for each of the categories selected in question 3a:

At various times during the year, the South Fork overtops its banks locally just upstream of the South Fork dam and submerges the bank opening described in Part (2b). During such periods, a measurement site at this opening would be largely inaccessible. It would have limited, difficult accessibility during other periods.

The lack of hydraulic gradient as water flows through the gap into the refuge would make it challenging to monitor there using conventional hydrological methods. Backflow conditions are

frequently exhibited at the location too which would further compound monitoring through traditional means. Advanced technologies were examined as possibilities for monitoring at the location, however, the dimensions of the gap opening and physical environment precluded it from being appropriate or suitable for those technologies.

(4) Alternative Compliance Plans shall include alternative, objective measurement and performance standards that achieve the closest attainable compliance. Describe the measurement or alternative to measurement that will be used at each point of diversion in the plan to achieve closest attainable compliance. *

Two continuous monitoring sites were established in an effort to quantify the total water diverted from the South Fork Pit River for use at Modoc National Wildlife Refuge. The first site is located in a diversion ditch and measures water received exclusively from the South Fork. The device deployed there meets the monitoring frequency requirement outlined in the regulations and the FWS anticipates that the accuracy requirement will be satisfied at the site as well (data are needed there to verify this).

The second site is located in another diversion ditch that receives water from both South Fork and non-South Fork sources. Since there are deliveries of non-South Fork water upstream of the measurement site, the device there cannot accurately quantify water received in the ditch from the South Fork alone. However, the measurement location selected for this device was deemed to be the location closest to the point of diversion suitable for monitoring. Although it quantifies some non-South Fork water in addition to South Fork water, the non-South Fork water received there is thought to be a minor percentage relative to the annual flow diverted for use from the South Fork. It is the opinion of the FWS that the selected measurement site provides the closest attainable compliance to the monitoring regulations.

SECTION E - AREA COVERED BY THE ALTERNATIVE COMPLIANCE PLAN

Summarize the following for each water right covered by the Alternative Compliance Plan. In Section I, attach maps, aerial photographs, or other renderings showing the area covered by the Alternative Compliance Plan and delineating the acreage of each place of use served. For the area covered by the Alternative Compliance Plan, include a list of assessor's parcel numbers and the current owner of each parcel.

(1) Provide a general description of the area covered by the Alternative Compliance Plan. *

The coverage area extends south along Highway 395 from the southern boundary of the town of Alturas for approximately 4.75 miles. It is bounded on the west by Highway 395 and extends east for up to about 1.25 miles from the highway. The area covered consists primarily of low-lying wetlands that serve as habitat for waterfowl and migrating birds.

The coverage area includes the following townships and ranges in the Mount Diablo Base and Meridian (MDB&M):

- 41N, 12E
- 42N, 12E

The US Fish and Wildlife is the owner of all individual parcels associated with the coverage area. The complete list of the assessor's parcel numbers is attached as a separate document as well as a map that delineates the coverage area.

(2) Describe all diversion and conveyance works covered by the Alternative Compliance Plan. *

The diversion works identified in the Initial Statement of Water Diversion and Use is 'South Dam' on the South Fork Pit River. The dam consists of 14 weir bays where flashboards can be added or removed to control the movement of water. The GPS coordinates for the structure are:

41°25'29.498" N, 120°32'16.341" W

There is an artificial ditch designated as the 'East Side Canal' on the attached map that is utilized to convey water diverted from the South Fork Pit River. There is a stoplog structure in this canal located at 'Station 169021' on the map where flow monitoring occurs and the GPS coordinates for the structure are:

41°26'47.93" N, 120°32'3.13" W

The measurement site at this location is further described in Section F (1) under the 'South Fork Pit River Diversion at Matney Marsh (USFWS Site #169021)' heading.

There is an artificial ditch designated as the 'High Line Canal' on the attached map that is utilized to convey water diverted from the South Fork Pit River. There is a stoplog structure in this canal located at 'Station 169022' on the map where flow monitoring occurs and the GPS coordinates for the structure are:

41°25'37.12" N, 120°32'26.54" W

The measurement site at this location is further described in Section F (1) under the 'South Fork Pit River Diversion at Highline Canal (USFWS Site #169022)' heading.

(3) Describe the type(s) of Beneficial Use(s). *

Wildlife
Recreation
Irrigation

(4) Have you attached a list of assessor's parcel numbers and the current owner of each parcel covered by the Alternative Compliance Plan? (Attachments may be made under Section I of this form.) *

YES

SECTION F - MEASUREMENT AND MONITORING

(1) For each Point of Diversion listed in the Alternative Compliance Plan, describe how the water is measured. *

There are two monitoring sites associated with this Alternative Compliance Plan where water diverted for use from the South Fork Pit River is quantified:

South Fork Pit River Diversion at Matney Marsh (USFWS Site #169021)

This site consists of a concrete stoplog structure in a diversion ditch with a 4.0 ft opening where boards can be added or removed to control flow through the ditch. There is a HOBO datalogger

(SN# 10766854) deployed in the ditch just upstream of the structure set to record water level at 15-min intervals. The reference is a staff gage that is mounted near the logger and stoplog structure.

The continuous water level data recorded at this site are converted to a continuous record of flow by utilizing a discharge rating. The discharge rating for the site is based upon the theoretical weir equation for a rectangular weir and reflects the width of the opening of the stoplog structure. The refuge staff track when boards are added to and removed from the structure so that the water level data recorded by the HOBO logger can be utilized to calculate the head height above the stoplog boards.

South Fork Pit River Diversion at Highline Canal (USFWS Site #169022)

This site consists of a stoplog structure (corrugated steel) in a diversion ditch with a 4.58 ft opening where boards can be added or removed to control flow through the ditch. There is a HOBO datalogger (SN# 10778211) deployed in the ditch just upstream of the structure set to record water level at 15-min intervals. The reference is a staff gage that is mounted immediately adjacent to the logger.

The continuous water level data recorded at this site are converted to a continuous record of flow by utilizing a discharge rating. The discharge rating for the site is based upon the theoretical weir equation for a rectangular weir and reflects the width of the opening of the stoplog structure. The refuge staff track when boards are added to and removed from the structure so that the water level data recorded by the HOBO logger can be utilized to calculate the head height above the stoplog boards.

2) Identify the measurement accuracy associated with the measurement devices. *

The expected measurement accuracy of the devices is +/- 10%, consistent with the required accuracy for devices installed after January 1, 2016 (data are needed to verify this though).

(3) Describe how the accuracy of the Alternative Compliance Plan was calculated. *

For both measurement sites, independent flow measurements will be collected at the stoplog structures with a Cal-Poly weir stick during site visits that occur at approximately 8-10 week intervals in non-winter months. These flow measurements may be utilized to check the accuracy of the discharge ratings and to shift or update them if deemed appropriate.

SECTION G - IMPLEMENTATION SCHEDULE (IF NECESSARY)

(1) If applicable, describe the implementation schedule for the Alternative Compliance Plan, including objective milestones from date of filing through final implementation. Milestones should include date of completion for construction and testing, expected dates of issuance of required permits, and expected date for compliance with the California Environmental Quality Act:

An Alternative Compliance Plan shall be submitted and implemented by the established regulatory deadlines (see form instructions for additional information) unless a Request for Additional Time has been granted.

Monitoring equipment for the two measurement sites associated with this plan was installed on March 8th, 2017. Continuous data collection commenced on that date and periodic, independent flow measurements are currently taking place to verify the accuracy of the equipment.