STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

Staff Report for Regular Meeting of July 18-19, 2019

Prepared on June 17, 2019

ITEM NUMBER: **15**

SUBJECT: **Montecito Debris Flow Recovery**

STAFF CONTACT:

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ACTION: **Information and Field Trip**

SUMMARY

Following deadly debris flows in January 2018 in the community of Montecito, Central Coast Water Board staff worked closely with Santa Barbara County to permit community and creek debris cleanout and disposal and to facilitate emergency response and disposal activities that were protective of human health and water quality. Staff aided the county's response to the emergency through consistent communication and by expediting the issuance of permits that authorized infrastructure repair, removal of material from water bodies, and placement of clean sediment at Goleta and Carpinteria beaches. Monitoring demonstrated the sediment placed on the beaches was non-hazardous and was composed mostly of sand.

Board members will tour debris basins in the upper watershed, recovery areas, and the Goleta Beach sediment placement location.

DISCUSSION

In January 2018, a severe rainstorm hit the watershed above the Montecito area. The area had been burned in December 2017 (less than one month earlier) by the Thomas Fire, which denuded the hillsides. As a result, the rain caused significant erosion and a major debris flow. The debris flow travelled from the hillsides to the ocean, causing large swaths of devastation. Homes and lives were lost in the event. The debris flow significantly damaged infrastructure in the area, including Highway 101, water and gas utilities, and various parts of Montecito Sanitary District's wastewater collection system. The county immediately mobilized emergency crews and contractors to remove debris from roads, creeks, and debris basins.

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disposal activities that were protective of human health and water quality. Staff aided the county's response to the emergency through consistent communication and by expediting the issuance of permits that authorized infrastructure repair, removal of material from water bodies, and disposal of clean material at Goleta and Carpinteria beaches. Staff took a phased approach, increasing regulatory oversight as the emergency abated and shifted from an emergency response phase to a recovery phase. For example, initial visual monitoring for disposal of sediment evolved into substantial sediment sampling and analysis once the immediate emergency was resolved and recovery efforts began.

Central Coast Water Board staff issued the first permit related to the Thomas Fire on December 13, 2017, prior to the debris flow. This permit authorized the county to conduct post-fire / pre-winter preparation at eleven debris basins and in one creek channel. Subsequently, the county notified Central Coast Water Board staff of the debris flow emergency situation in Montecito on January 9. Central Coast Water Board staff initially covered the county's immediate debris flow-related emergency activities under the earlier Thomas Fire maintenance permit. On January 19, 2018, as the emergency began to abate, Central Coast Water Board staff issued an individual Clean Water Act section 401 Water Quality Certification that included rigorous monitoring and sampling requirements for placement of debris flow sediment on the beach. In addition to permits issued to the county, Central Coast Water Board staff issued approximately ten emergency permits to various agencies for work in response to the debris flow.

Placement of debris flow sediment began at Goleta and Carpinteria Beaches on January 11, 2018. Disposal continued at Carpinteria Beach and Goleta Beach until February 2, 2018, and February 20, 2018, respectively. A total of approximately 68,963 cubic yards of material was deposited on the beaches. Discharge of approximately 20,000 cubic yards of sediment also occurred during hydraulic dredging of Carpinteria Salt Marsh.

Staff worked closely with Brian Ross of the EPA's Dredging and Sediment Management Team to develop sampling and analysis procedures for beach placement of sediment. After sorting material to remove debris and large rocks, the county transported sediment to Carpinteria Beach and Goleta Beach. Samples were analyzed for grain size, ammonia, metals, polycyclic aromatic hydrocarbons, and pesticides. A hand-held meter was used to screen for volatile organic compounds, with no detections. Sediment placed on the beaches was found to be non-hazardous and composed mostly of sand. No serious water quality concerns were raised from the sediment sampling. Ammonia and oil and grease levels were observed to be above guidelines for beach placement in a limited number of samples, but staff assessment of the sampling results and the substantial mixing conditions along the shore determined that any potential risk would be localized and very short term. Furthermore, whereas the county kept Goleta Beach closed until July 2018 due to high levels of fecal indicator bacteria in the ocean, results from UCSB ocean sampling in January and February 2018, and from a county consultant in May 2018, showed that fecal indicator bacteria concentrations associated

with human waste were low—more than ten times lower than the concentration expected to result in elevated health risk from water contact recreation.

In January 2019, Central Coast Water Board staff issued a 401 Water Quality Certification as a proactive measure for the county to perform debris removal activities from debris basins and associated channels and to place sediment again at Goleta Beach and Carpinteria Beach. This proved an efficient step as it only required one amendment during the winter period, as compared with approximately half a dozen Corps permits issued for work during the same period. Sediment sampling procedures and results were similar to those of 2018. There were fluctuating levels of bacteria found before and during sediment disposal in the ocean, but no fecal human DNA was observed, as confirmed by county testing of sediment from debris basins and from Goleta Beach.

Beach erosion has been threatening Goleta Beach Park facilities and parking lots for several years. A rock revetment was most recently placed in 2017 to try to protect these areas, with marginal success. A by-product of the beach disposal activities has been the formation of a cobble berm along a portion of the beach, with a resultant build-up of the beach area behind it. The county is looking into whether this could be replicated further down the beach as it seems more effective than rock revetments.

CONCLUSION

Central Coast Water Board staff worked effectively with the county to respond to the debris-flow emergency. Central Coast Water Board members will visit several areas to visually observe the debris flow recovery effort outcomes.