



GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT

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For Immediate Release:

Iranian Scientists Visit Owens Lake

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A State Department-sponsored tour brought a delegation of twelve scientists to the US from Iran to consult with their counterparts on issues related to water shortages in the southwest US. On June 25, researchers from Urmia Lake Restoration Program (ULRP) and Iranian universities with backgrounds in civil engineering, hydrology, geochemistry and environmental sciences were hosted by staff from the Great Basin Unified Air Pollution Control District (District) and LA Department of Water and Power (DWP) for a tour and workshop at Owens Lake.

Urmia Lake is one of the largest salt lakes in the world and is located in a closed basin in north-west Iran. The basin area is 51,870 km² and at its full size, it is the largest lake in the Middle East and the sixth largest saltwater lake on earth with a surface area of 5,000 to 6,000 km², and an average depth of 5.4 m depth. Due to its unique natural and ecological characteristics, Urmia Lake is a protected area as a UNESCO (United Nations Educational, Scientific and Cultural Organization) Biosphere Reserve and a Ramsar Convention site.

The lake surface and water volume have been decreased dramatically over the last two decades. The lake's surface area has been estimated to have been as large as 6,100 km² in 1995, but since then it has generally been shrinking and was estimated from satellite image to be only 1300 km² in June 2015, approximately 20% of its original surface area. The drying Urmia has severe socio-economic and environmental impacts in the region. The basin area is an important agricultural zone with a population of around 6.4 million people; an estimated of 76 million people live within a radius of 500 km of the lake in five countries of Iran, Turkey, Iraq, Armenia and Azerbaijan.

Dr. Ali Chavoshian, Director of the Regional Centre on Urban Water Management, under the auspices of UNESCO, said that "those around the lake are afraid of a situation similar to Aral Sea, which has dried up over the past several decades. Disappearance of the Aral Sea has been an environmental disaster affecting people throughout the region with windblown dust-storms. Like

Owens Lake, the Urmia Lake bed is exposed to wind erosion causing enormous dust storms. The population surrounding Urmia Lake is much denser putting more people at risk of impact.”

According to Chavoshian, the present status of Urmia Lake is the result of various natural and human factors such as increasing of the agricultural land, changing the crop pattern and producing high water consuming products on the basin area, low water productivity and lack of effective protection from the basin ecological and environmental resources, as well as, climate change and decreasing rate of precipitation and surface runoff all over the Urmia basin. In other words, lack of enough water flow into the lake in the recent years resulted in an intensive trend of decreasing rate of water level and lowering its water volume.

The Iranian scientists were highly impressed with the District’s automated air monitoring instruments and modeling system at Owens Lake, which has been acknowledged by researchers as the most advanced system used anywhere in the world. They were also very interested in DWP’s dust control measures at Owens Lake, because some of these methods could be utilized at Urmia Lake. Dust mitigation efforts at Owens Lake have been implemented over the last 15 years and are now about 95% complete, while dust control efforts at Lake Urmia have not been initiated.

Air Pollution Control Officer, Phill Kiddoo said, “At almost 20 times the size of Owens Lake, the health risk associated with wind-blown dust from the recently dried Urmia Lake, poses a significant health risk to millions of Iranians. Sharing the information and knowledge gained from decades of research, air quality monitoring and operation of the District’s Owens Lake Dust Identification Program in conjunction with showing DWP’s successful dust control projects, provided powerful insight to the visiting scientists who are seeking feasible solutions to solve similar water shortage and dust problems at Urmia Lake.”

To help them understand the water shortage problems in the US, the Iranian delegation also met with experts at the Salton Sea, Mono Lake, and the Great Salt Lake in Utah. Most of them were making their first trip to the US. While in the Eastern Sierra they stayed three nights in Bishop for the tour that took place in late June.

Photo 1: Iranian delegation with District and DWP staff at DWP’s facility in Keeler.

Photo 2: Dr. Jack Gillies from the Desert Research Institute in Reno, Nevada describes how dust from the Keeler Dunes is controlled using straw bales to reduce the wind until planted native shrubs reach maturity.

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