

3. Laminar Flow Aeration Test Projects – *Russell Norman*

Two project proponents in our Region are implementing test projects within Lake Tahoe to evaluate the effects of Laminar Flow Aeration (LFA) on water quality. LFA systems provide bed sediment and water column aeration utilizing air compressor and patented diffuser disk technology.

On August 3, 2018, Ski Run Marina finished installing and started-up an LFA system consisting of five ceramic aeration disks and weighted airlines installed on the bed of Ski Run Marina and an air compressor installed on an upland area of the Marina. The Tahoe Keys Property Owners Association (TKPOA) is preparing to install a similar system in the Tahoe Keys and Tallac Lagoons in late 2018. The LFA systems are proposed to be operated year-around.

The goals of these test projects are to evaluate the expected strengths of LFA technology in: 1) reducing organic lake bed sediments by increasing bed sediment oxygen concentrations to encourage aerobic degradation, 2) breaking-up thermal and dissolved oxygen stratification within the water column, 3) increasing water body dissolved oxygen concentrations throughout the water column, 4) accelerating nutrient transformation processes in the water body and 5) creating conditions, by the above noted actions, that will limit aquatic invasive plant infestations and harmful algal blooms.

Permitting required for these projects includes a California Department of Fish and Wildlife Lake Bed Alteration Agreement, a U.S. Army Corps of Engineers Nationwide Permit (NWP) Number 5 (issued for Scientific Measurement Devices under section 404 of the Clean Water Act) and a 401 Certification with any applicable Basin Plan prohibition exemption issued by the Lahontan Water Board. The NWP 5 is one of several U.S. Army Corps of Engineers general 404 permits that have been pre-certified by the State Water Resources Control Board. The Lahontan Water Board issues 401 certifications for these projects using the State Water Resources Control Board, Clean Water Act section 401 General Water Quality Certification and Order