

AGENDA ITEM 8: Blue green algae (cyanobacteria) report

Prepared by: Natasha Nelson Presented by: Dr. Peggy Lehman (California Department of Fish and Wildlife) and Dr. Marilyn Underwood (Contra Costa County Health Services)

Requested Action: Receive report on blue green algae (cyanobacteria) in the Delta

Background: Recent media coverage highlights the extent of outbreaks of blue green algae (cyanobacteria) throughout California and the nation, but most especially here in the Delta (the most recent outbreak occurring near Discovery Bay).

Sunlight, warm temperatures, nutrients in the water and calm water conditions can contribute to algal blooms, which are considered to be harmful if they produce toxins that can affect people and pets when they contact the affected water.

People can be exposed to the toxins when they accidentally ingest water while swimming or waterskiing. The toxins can also contact the skin during swimming or be inhaled if they become aerosolized, such as during waterskiing or jet skiing.

Exposure to high concentrations of these toxins can cause skin rashes, eye, nose, mouth, or throat irritation, headache and gastrointestinal upset. Dogs can also become ill if they ingest the water or lick their fur after contacting the affected water.

Additional information on harmful algal blooms can be found on the State Water Resources Control Board website: http://www.mywaterquality.ca.gov/monitoring_council/cyanohab_network/index.html

The Commission will hear from Dr. Peggy Lehman (California Department of Fish and Wildlife) and Dr. Marilyn Underwood (Contra Costa County Health Services) about why algal outbreaks are occurring and what actions could be taken by officials and Delta residents in the event it is found present in additional areas of the Delta.

Dr. Lehman will present an overview of the conditions that lead to the growth of blue green algae and the current geographic extent of the outbreak(s). Dr. Lehman was an environmental scientist for 30 years with California Department of Water Resources in the Environmental Water Quality and Estuarine Science Branch but recently transitioned to a Senior Environmental Scientist (Supervisor) for the Management Analysis and Synthesis Team at California Department of Fish and Wildlife. She has published ten scientific papers on aquatic bacteria within both tidal and freshwater systems. She obtained her doctoral degree from UC Davis in Ecology.

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Dr. Underwood will present on the health dangers and environmental implications from blue green algae outbreaks. Dr. Underwood is the Director of Environmental Health at Contra Costa Health Services since 2011 and prior to that was the Senior Toxicologist at California Department of Public Health for 19 years. She obtained her doctoral degree from UC San Francisco in Comparative Pharmacology and Toxicology.