In many arid regions, countries are increasingly reliant on seawater desalination to supply drinking water for rapidly growing coastal populations. There are currently more than 14,000 desalination plants in more than 150 countries worldwide. An emerging threat to the desalination industry is from harmful algal blooms (HABs, commonly called red tides). High biomass HABs can restrict flow in desalination plants by clogging filters, but other impacts include fouling of surfaces due to dissolved organic materials that can also compromise the integrity of reverse osmosis (RO) membranes. A recent HAB of the dinoflagellate Cochlodinium is a clear example of the risk posed by these phenomena. That outbreak, which lasted nearly eight months in the Gulf-Arabian Sea region in 2008/2009, closed or restricted the operation of multiple desalination plants, one for as long as 55 days. With little reserve water storage or alternative sources, this was a major threat to the region.

Recognition of potential problems that HABs may pose to desalination is new and has, so far, largely been speculative. Toxic blooms in the vicinity of desalination plants are often unrecognized events, and plant operators are generally unaware of the threat that algal toxins pose. As a result, no measurements of marine algal toxins before and after desalination have been made at any large-scale desalination plant.

This two-day conference will bring together scientists, engineers, managers, and government officials. The date for this meeting will be April 16-17, immediately following the Sultan Qaboos University International Conference on Desalination, Environment, and Outfall Systems, to be held in Muscat April 13-15. At the HAB conference, presentations by scientists and engineers will cover topics that include the following:

1. A general overview of HABs, their impacts, and trends
2. Case studies and descriptions of impacts of HABs on desalination facilities
3. Results of experimental and pilot studies on HAB toxin removal during desalination
4. Results of experimental studies on the removal of HAB biomass using Dissolved Air Flotation (DAF), ultrafiltration, and other methods
5. Design considerations for desalination plants in areas subject to recurrent HABs
6. New technologies and approaches to HAB detection and forecasting
7. Approaches to direct bloom control or suppression
8. Action plans or management strategies to follow during HAB outbreaks
9. Regulatory issues
10. Research priorities and future plans.

Contributed papers: Abstracts will be solicited in the next announcement. We anticipate a closing date of mid-January 2014. Oral presentations and posters will be welcome.