



Business Plan 2005 – Division of Environmental Health - Florida Department of Health

Mission: "Promote and Protect Health"

Vision: "Healthier Floridians"

Goal: To prevent disease of environmental origin

Bureau of Community Environmental Health – AQUATIC TOXINS PROGRAM

Trends and Conditions:

This business plan reflects a significant departure from past years' activities. Recent evidence has shown that *Pfiesteria* and its Possible Estuary-Associated Syndrome (PEAS) is not related to a identifiable toxin, but to direct predation on aquatic organisms. Additionally, *Pfiesteria* has not been a significant harmful algal bloom (HAB) in Florida. Centers for Disease Control and Prevention (CDC), along with other participating states are dropping the PEAS surveillance tool and are developing a more robust instrument to assess possible health effects from exposures to organisms such as those associated with red tide, cyanobacteria, ciguatera, saxitoxin and other marine toxins. Collaborations with other institutions such as the Water Management Districts in Florida, DOH County Health Departments (CHDs), Florida Fish and Wildlife Research Institute (FWRI), Mote Marine Laboratory, University of Miami Rosenstiel School of Marine and Atmospheric Science (UM RSMAS), and the US National Oceanic and Atmospheric Administration (NOAA), also reflect this change in direction and emphasis.

Division Cost: \$971,349 (Grant funding)

Division Positions: 3

County Program Cost: *

County Positions: *

* County staffing and costs are not tracked at a statewide level

The Florida Aquatic Toxins Program has successfully secured funds for further development of activities related to assessment of human health impacts from HABs including red tide, cyanobacteria, ciguatera, puffer fish poisoning, and newly emerging HABs. The current grant from the CDC, *Expanding Existing Surveillance Systems to Include Pfiesteria, Other Harmful Algal Blooms and Marine Toxins in Florida*, Grant #U50-CCU423360-01, is funded from October, 2003 to September 2006 at approximately \$971,000 annually. Research, surveillance, education and policy development objectives have been dramatically augmented with this significant increase funding from the CDC.

HABs occur throughout the world with Florida having the distinction of being home to all major toxin-producing marine, estuarine and freshwater microalgae. The subtropical warm climate, 1200 miles of coastline, varied aquatic habitats, and the human interface through seafood consumption and from water activities compose an environment where the presence of aquatic toxins can have a significant impact on public health. In Florida, the estimated annual economic impacts from HABs is millions of dollars with direct effects to both tourism and public health. Approximately \$22 million is attributable to public health issues alone. During the past 2 decades there has been a dramatic increase in the population along Florida's coastline (80% of the population lives near the coast and greater numbers either vacation or participate in recreational at the shore). Together with this increase in population, has been the apparent increase in frequency and distribution of toxic blooms. In the western waters off Florida, blooms of the toxic dinoflagellate *Karenia brevis* have occurred annually in the Gulf of Mexico 25 out of 26 years since records have been kept. The geographic extent of the blooms appears to have increased in recent years. The increased reliance of the state on tourism for its economic health together with an increasing population at risk for exposure to HABs makes assessment of health related illness from aquatic toxins an important public health issue.

Florida residents and visitors have environmental exposures with human illness associated with cyanobacteria toxins, amnesiac shellfish poisoning, paralytic shellfish poisoning, diarrhetic shellfish poisoning, and puffer fish poisoning. Red tide toxins (brevetoxins) cause respiratory and eye



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irritations with possibly more serious effects on sensitive populations such as those with asthma or chronic lung disease. Research funded by this grant is also evaluating the ability of brevetoxin to accumulate in the edible portions of fish.

Short Term Objectives

By January 1, 2006:

- Increase surveillance of harmful algal blooms and related illnesses.
- Coordinate epidemiological studies of health effects of harmful algal blooms.
- Increase awareness of aquatic toxins among physicians and the general public.
- Develop triggers warning the public of harmful algal bloom events.

Long Term Objectives

By January 1, 2007:

- Increase CHD utilization of Geographic Information Systems to monitor and respond to harmful algal bloom events.
- Increase DOH cyanobacteria toxin analysis capacity.

By January 1, 2008:

- Establish interim recommendations for limiting exposure to harmful algal bloom toxins in drinking water and recreational water.
- Establish CHD-specific protocol for responding to HAB-related incidents.
- Establish Intranet mapping capabilities for use by CHDs.

Measure #1: To expand public health research by public and private institutions in the state of Florida that focuses on the identification, diagnosis, treatment, and prevention of adverse health effects from exposure to harmful algal blooms and their toxins from 4 projects to 7 projects.

HP 2010 Objective		Strategy	Benchmark	Status
23-17	Increase the proportion of Federal, Tribal, State, and local public health agencies that conduct or	Increase DOH representation in Florida-based HAB research initiatives.	Increase number of institutions participating in research activities.	Ongoing
		<ul style="list-style-type: none"> • Continue collaborative relationships with academic 	Collaborations with at least three major research	Scientists at UM RSMAS,



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	collaborate on population-based prevention research.	institutions, research labs, and other entities actively involved in HAB research.	institutions on HAB research.	University of North Florida (UNF), Mote Marine Lab, Lovelace participating in collaborative research activities with DOH.
		<ul style="list-style-type: none"> Maintain active membership in the Florida HAB Task Force. 	Monthly contact with representative of FWRI (responsible agency for Task Force).	First meeting of the Public Health Technical Panel held in October; 2 nd meeting scheduled for March, 2005.
11-5	Increase the number of centers for excellence that seek to advance the research and practice of health communication	<p>Promote HAB-related public health research</p> <ul style="list-style-type: none"> Solicit project proposals from with academic institutions, private research labs, and other governmental entities with known HAB expertise. 	<p>At least 30% of grant funding used to support research.</p> <p>Contracts with at least 3 entities for Aquatic Toxins research.</p>	<p>Grant funding currently being used to support a variety of research efforts.</p> <p>UM RSMAS, UNF, Mote, UM SOM, Lovelace, Greenwater Laboratory participating in collaborative research activities with DOH.</p>
11-3	Increase the proportion of health communication activities that	Increase the use of current research in educational/outreach materials	Number of materials developed that were based on research findings.	Materials and other communications activities utilizing findings of



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	include research and evaluation.			research initiatives are being produced. Increased research activities should enable us to update existing materials and produce new.
		<ul style="list-style-type: none"> Perform scheduled review and updates on DOH literature and websites. 	Material content review and updated on a bi-annual basis.	HAB issues identified for additional outreach material development include ciguatera, puffer fish poisoning and cyanobacteria.

Measure #2: To provide 2 trainings and adequate infrastructure to Department of Health Headquarter and County Health Department staff to evaluate and respond to public health concerns related to harmful algal blooms.

HP 2010 Objective		Strategy	Benchmark	Status
23-3	Increase the proportion of all major national, State, and local health data systems that use geocoding to promote national use of	Promote the use of GIS for HAB data collection and surveillance.	Deliver at least four GIS related presentations, workshops, meetings, and mass communications to CHDs and other stakeholders.	Significant progress has been made in the use of GIS tools in the ATP and the dissemination of materials generated by GIS technology.
		<ul style="list-style-type: none"> Use GIS coordinate information where available, geocode 	80% of sampling locations have a geospatial data	Coordinate information has been obtained for all the healthy beaches locations. Address



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	geographic information systems	remaining data.	component.	information in Centrax for freshwater bathing places has been geocoded.
		<ul style="list-style-type: none"> Develop a field application for PDA's to enable GIS coordinate and attribute data collection for CHD sampling activities and investigations. 	Increase the number of CHDs utilizing GPS/electronic data collection systems for HAB surveillance activities by 20%.	<p>The ATP is currently designing a field sample data collection form that will collect site location and contact information, water quality parameters, weather conditions, land use descriptions, and GIS coordinates.</p> <p>In the first quarter of 2005, the ATP will work with the Division's GIS Manager to adapt the form for use on PDAs and begin beta-testing the product.</p>
23-2	Increase the proportion of Leading Health Indicators, Health Status Indicators, and Priority Data Needs for which data, especially for select populations, are available at the Tribal, State, and Local Levels.	<p>Improve CHD access to HAB data.</p> <ul style="list-style-type: none"> Promote the ATP website to increase use by CHDs as a reference for general information on HABs. Expand ATP Intranet site to include current research data, and links to other data sources. Create SDE layers for HAB-related data on the DOH SDE server. 	<p>Four CHDs with access to HAB data.</p> <p>CHD targeted materials generated and distributed at DOH meetings and through intranet.</p> <p>DOH Collaborative research projects represented on website.</p> <p>Layers created and data converted to usable format.</p>	<p>Ongoing</p> <p>Ongoing</p> <p>In progress.</p> <p>Data is being converted into suitable format. Tier 2 governance process will likely be required.</p>
23-13	Increase the	Develop in-house	Have two additional	Collaborative efforts with the



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<p>proportion of Tribal, State and local health agencies that provide or assure comprehensive laboratory services to support essential public health services.</p>	<p>expertise (within DOH Laboratory Program) for analytical assessment of cyanotoxins</p>	<p>laboratory personnel trained in cyanotoxin analyses</p>	<p>DOH Laboratory Program have begun.</p>
	<ul style="list-style-type: none"> Finalize High Pressure Liquid Chromatography (HPLC) methodology. 	<p>Documentation of HPLC procedure.</p>	<p>Analytical instrumentation in place at DOH Laboratory. Laboratory staff have been testing the methodology in 2004.</p>
	<ul style="list-style-type: none"> Develop Quality Assurance/Quality Control measures. 	<p>Preparation of QA/QC report.</p>	<p>DOH Lab is collaborating with Greenwater Lab with inter-laboratory splits and calibrations.</p>
	<ul style="list-style-type: none"> Increase capacity for analysis. 	<p>100 samples/year</p>	<p>Coordinator is working with Microbiology Lab at DOH Central Lab.</p>
	<p>Enhance CHD notification/reporting capacity</p>	<p>All CHDs getting HAB data reported through LIMS.</p>	<p>In progress.</p>
	<ul style="list-style-type: none"> Integrate microbiological section into water chemistry’s tracking system. 	<p>All microbiological sample analyses available through web access in electronic format via the Laboratory Information Management System (LIMS).</p>	<p>Brad Gross of the Water Chemistry section has developed the capacity to track and report analyses in LIMS. Data is available to external clients through a desktop application Sample Manager. Enhancements will be made as sample activity increases.</p>
	<ul style="list-style-type: none"> Facilitate web-based CHD access to cyanobacteria toxin analysis. 	<p>Selected CHD access via LIMS.</p>	<p>In progress; effort being headed by DOH Laboratory.</p>



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23-14	Increase the proportion of Tribal, State, and local health agencies that provide or assure comprehensive epidemiology services to support essential public health services	Further define and quantify health impacts from exposures to leading HABs through comprehensive epidemiological investigations.	Percent of studies planned that were successfully implemented.	Ongoing progress towards meeting all scheduled studies.
		<ul style="list-style-type: none"> Participate in a multi-agency study on occupational and recreational exposures to aerosolized red tide toxins (brevetoxins), including exposures of sensitive cohorts. 	Two studies (one during a red tide and one without red tide exposure) performed annually.	A non-exposure study was performed in October 2004. However, no exposure study was conducted due to unsuitable environmental conditions. More studies are planned pending suitable conditions.
		<ul style="list-style-type: none"> Initiate epidemiological studies on health impacts from exposure to cyanobacteria toxins (cyanotoxins) in recreational beach environments. 	Two studies (one in a water body with a cyanotoxin bloom and one without cyanotoxin exposure) performed annually.	The ATP is currently working with the CDC, PBS&J and CHD staff to identify a suitable study site, design surveys and develop strategies for volunteer recruitment.

Measure #3: Increase surveillance of harmful algal blooms, contributing environmental factors, “at risk” populations, harmful algal bloom exposures, and related health outcomes by increasing number of counties monitoring from 0 to 5.

HP 2010 Objective	Strategy	Benchmark	Status	
8-8	Increase the proportion of assessed rivers, lakes, and estuaries	Expand upon existing assessment programs to include harmful algal bloom monitoring and assessment	Number of counties in high risk areas doing harmful algal bloom monitoring and assessments.	Multiple efforts are underway to increase number of sites doing monitoring and assessments for HABs.



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<p>that are safe for fishing and recreational purposes.</p>	<ul style="list-style-type: none"> Define sampling needs based on historical occurrences and other available data. 	<p>Selection protocol developed.</p>	<p>The HAB Task Force sponsored a statewide survey of the distribution of cyanobacteria in 1999. These historical data are being used as a template for future sampling strategies.</p>
	<ul style="list-style-type: none"> Initiate a CHD-based cyanobacteria sampling program at select freshwater bathing places (FBP). 	<p>Assessment of 10% of listed freshwater bathing places in first year.</p>	<p>Annual CHD inspections are performed on 185 FBP. The ATP is currently working with the CHDs to select appropriate sites (those with a history of blooms). Sampling activities will be initiated in late spring.</p>
	<ul style="list-style-type: none"> Support other CHD-based or private contracted sampling activities based on needs analysis. 	<p>High risk Florida counties identified.</p>	<p>In 2004, PBS&J conducted a statewide assessment of 1st order of magnitude springs for the presence of <i>Lyngbya</i> spp. and toxins. Sampling and species identification are complete. Toxin analysis is pending.</p>
	<ul style="list-style-type: none"> Establish long-term sampling strategies and protocols. 	<p>Sampling protocol manual with QA/QC documentation developed.</p>	<p>The ATP is reviewing the Australian protocols to determine applicability. The ATP in conjunction with DEP, Wright State University; and private environmental consulting firms (Greenwater Laboratory; PBS&J).is also researching the methodology and strategies used by developing HAB monitoring programs within other states in the US.</p>



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24-8	Establish in at least 25 States a surveillance system for tracking asthma, death, illness, disability, impact of occupation and environmental factors on asthma, access to medical care, and asthma management	Expand surveillance of HAB-related health impacts on asthma and chronic obstructive pulmonary disease (COPD) from existing data collection systems	Presentation of COPD and asthma surveillance findings.	Progress has been made in establishing data sharing agreements with various institutions.
		<ul style="list-style-type: none"> Form partnership with Florida Poison Information Centers (PCIC) to collect data on exposures to aquatic toxins. 	Receive case data on monthly basis from Aquatic Toxins Hotline/ PCIC database.	The ATP provides funds to the Florida PCIC, who maintains a toll-free aquatic toxins hotline at the University of Miami. Summary reports are transmitted to the ATP on a monthly basis for review and analysis. The Florida Poison Information Network is currently developing a web-based access tool to facilitate real-time access to authorized staff.
		<ul style="list-style-type: none"> Access hospitalization and emergency room data from Agency for Health Care Administration (AHCA). 	Data sharing agreement with AHCA or through DOH affiliate program.	The ATP has access to summary data on asthma deaths and hospitalizations via CHARTS. AHCA recently announced that it will begin collecting ER data in January 2005. In compliance with HIPAA confidentiality restrictions on patient data, the ATP is pursuing AHCA authorization for wider access to asthma data.
		<ul style="list-style-type: none"> Perform spatial analysis of asthma data as it relates to HAB events. 	GIS analyses study performed and published/presented in	This task depends on acquisition of health data; Efforts are being made to act in concert with other



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			scientific forum.	programs within HSE to facilitate data sharing.
8-27	Increase or maintain the number of Territories, Tribes and States, and the District of Columbia that monitor diseases or conditions that can be caused by exposure to environmental hazards.	Develop an Integrated Public Health and Environmental Monitoring Plan	Tool developed and disseminated.	The CDC is developing a multi-state HAB surveillance tool for both environmental and health indicators.
		<ul style="list-style-type: none"> Inventory existing datasets and identify custodians. 	Inventory of appropriate and available databases.	<p>In September 2003, the Gulf of Mexico Program published a draft report, Florida Data Inventory and Needs Assessment, which identified the major contributing environmental data sets and assessed stakeholders' needs.</p> <p>CHARTS provides summary data from many of the leading public health databases. The ATP is exploring other data sources.</p>
		<ul style="list-style-type: none"> Create and maintain a secure web-based data sharing portal (ftp site). 	FTP site up and running	In progress
		<ul style="list-style-type: none"> Develop a secure web-based HAB monitoring tool. 		The ATP is currently testing a HAB forecasting system for the Gulf of Mexico that was developed by NOAA in cooperation with the Florida Fish and Wildlife Research Institute and Mote Marine Lab.



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Measure #4: Improve the quality, availability, and effectiveness of educational materials to increase awareness of harmful algal blooms, human health risks, symptoms of exposure, and prevention and treatment measures by developing 3 new educational materials.

HP 2010 Objective		Strategy	Benchmark	Status
23-5	Increase the proportion of Federal, Tribal, State, and local agencies that have made information available to the public in the past year on the leading health indicators, health status indicators, and priority data needs.	Develop and circulate audience-specific information, education and communication (IEC) materials.	Materials developed for at risk populations for 5 HABs addressed by ATP.	Actively developing materials for various populations and HABs.
		<ul style="list-style-type: none"> Design and distribute promotional items advertising ATP, website, and hotline. 	At least one promotional item developed for each leading HAB concern.	An order was recently placed for frisbees targeting people with red tide and cyanobacteria concerns. Other promotional items will be developed for puffer fish information.
		<ul style="list-style-type: none"> Develop and distribute public information brochures for leading HABs and related illnesses (red tide, cyanobacteria, ciguatera fish poisoning, puffer fish poisoning) 	At least one mass produced print material available for each of the leading HAB concerns.	The ATP has formed a partnership with the Red Tide alliance to mass distribute fact cards on red tide effects. In 2004, the University of Miami was contracted to develop a brochure on ciguatera fish poisoning. The design has been completed. Production of the brochure is pending final DOH review and approval.
		<ul style="list-style-type: none"> Produce multi-media presentations 	Multi-media presentations available for most common HAB (red tide).	A video on puffer fish poisoning was produced last year. As part of contracted services in 2004, START has prepared scripts for 3 multi-media presentations on red tide. Production is pending.



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11-4	Increase the proportion of health-related World Wide Web sites that disclose information that can be used to assess the quality of the site.	Create a web-based HAB-Education Clearing House	Number of IEC materials posted on website.	Currently revising the website and collecting materials to be posted.
		<ul style="list-style-type: none"> • Redesign and expand on existing ATP website. 	Staff trained to design and maintain ATP website.	As part of the Division-wide initiative, the ATP website is currently being redesigned. Select staff has received training on appropriate software. Links to other HAB-related on-line resources have been added.
		<ul style="list-style-type: none"> • Convert existing DOH HAB education materials into pdf format and post on website 	90% of existing print materials converted to pdf and available on website.	ATP brochure has been converted to pdf format. Other materials will be converted as appropriate authorizations are received (copyrights, etc.).
		<ul style="list-style-type: none"> • Post publications on DOH-sponsored research or provide links to appropriate on-line journals. 	Publications are posted within one year of print.	In progress.
		Develop on-line mapping tools to facilitate site and/or exposure assessment.	Mapping tools functioning and available at website.	Feasibility study currently underway; part of larger Dept. IT initiative.
		<ul style="list-style-type: none"> • Post-static HAB information maps and data tables on the ATP Intranet and Internet sites. 	Summary maps of known HAB occurrences published on an annual basis.	Data is currently being converted into appropriate format.



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		<ul style="list-style-type: none"> • Create a web-based interactive mapping tool (ArcIMS) that allows user-defined data table and shapefile exports. 	CHD access through intranet to ARCIMS ATP related information.	Concept only. The ATP is awaiting the results of current Division initiatives regarding the development of IT tools.
7-11	Increase the proportion of local health departments that have established culturally appropriate and linguistically competent community health promotion and disease prevention programs.	Develop and circulate culturally appropriate public information materials for HAB concerns.	At least five materials developed and circulated.	Ongoing process of developing and revising appropriate and timely materials.
		<ul style="list-style-type: none"> • Translate existing HAB education materials into Spanish. 	Multilingual ATP website.	Website being updated to reflect current program elements and materials.
24-7	Persons with asthma who receive education about recognizing the early signs and symptoms of asthma episodes and how to respond	Increase awareness of HAB exposure symptoms and appropriate management and treatment, and illness prevention techniques in asthma and COPD patients	Number of IEC activities targeting asthma and COPD patients developed and circulated.	Materials currently being developed through contract with Mote Marine Laboratory.
		<ul style="list-style-type: none"> • Ensure hotline representatives have current research information on HAB 	Contract with Florida PCIC has deliverable addressing HAB related symptoms for high risk	The ATP has contracted services with the Florida PCICs to maintain hotline.



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appropriately including instruction on peak flow monitoring for those who use daily therapy.	exposure symptom recognition, management and mitigation in asthma and COPD patients.	populations.	
	<ul style="list-style-type: none"> • Develop HAB educational materials targeting asthma and COPD concerns. 	Web information and brochure addressing HAB related symptoms for high risk populations.	Contract with Mote Marine Lab will fulfill much of this in current federal fiscal year.
	<ul style="list-style-type: none"> • Create an asthma/COPD resource link on the ATP website. 	Links identified to other sources of information.	Website is being updated.
	Increase awareness among healthcare providers about correct diagnosis, treatment, reporting, and prevention of human illness associated with exposure to algal toxins with special consideration to asthma and COPD.	Number of IEC activities conducted that target healthcare providers.	Mote Marine Laboratory has been working to develop various IEC activities for this population.
	<ul style="list-style-type: none"> • Develop and circulate IEC materials, including multi-media presentations, targeting health care providers. 	5 presentations/year	In 2004, the ATP contracted services from Mote Marine Lab to develop multi-media presentations.
	<ul style="list-style-type: none"> • Create a health care providers resource link on the ATP website. 	Web information for health care providers on ATP web site.	Multi-media presentations have been reviewed. Minor modifications are necessary prior to posting on website.



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Measure #5: Increase the number of public health strategies, policies, and guidelines to reduce and/or mitigate the risks of exposure to harmful algal blooms from 0 to 4.

HP 2010 Objective		Strategy	Benchmark	Status
23-15	Increase the proportion of Federal, Tribal, State, and local jurisdictions that review and evaluation the extent to which their statues, ordinances, and bylaws assure the delivery of essential public health services.	Facilitate the review and evaluation of public health policies to address HAB considerations.	Recommendations drafted and circulated.	In progress
		<ul style="list-style-type: none"> Establish a statewide task force to review and evaluate public health policies. 	Member of HAB Task Force Public Health Technical Panel.	Technical panel members met in October 2004 to discuss the status of various Task Force Initiatives.
		<ul style="list-style-type: none"> Identify needs and outline strategies for policy development. 	LBR for establishment of position within DOH for Aquatic Toxins.	In progress
		<ul style="list-style-type: none"> Prepare recommendations for the development of community-based response plans. 	Generic Public Health Community Response Plan for each type of HAB.	In progress
8-21	Ensure that State health departments establish training, plans, and protocols and conduct annual multi-institutional exercises to prepare for response to natural and	Ensure consistent and efficient response to harmful algal bloom events.	Four high risk CHDs with response plans.	HAB Task Force working on recommendations for response plans.
		<ul style="list-style-type: none"> Promote ATP website 	Identification of ATP contact person in each CHD and ensure awareness of Generic Community Response Plans.	The ATP continues to work to establish relationships with the CHDs through regional epidemiologists, and participation in director meetings and conferences.
		<ul style="list-style-type: none"> Develop Technical Guidance Manual for CHD 	Technical Manual developed.	The HAB Task Force is developing recommendations



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	technological disasters.	Staff.		for community-based response plans. The ATP will develop its technical guidance manual based on those recommendations.
		<ul style="list-style-type: none"> Establish harmful algal bloom training program for DOH and CHD staff. 	Presentations at CHD meetings; orientations	Once materials are developed through contracts, these will be cobbled into a multifaceted and comprehensive training module for CHD staff.
8-6	Reduce waterborne disease outbreaks arising from water intended for drinking among persons served by community water systems	Establish appropriate HAB guidelines/policies for drinking water consumption.	Guidelines published and circulated.	In progress
		<ul style="list-style-type: none"> Review current literature and established guidelines. 	Literature review published with supportive documentation.	Will be done through contract with outside institution.
		<ul style="list-style-type: none"> Evaluate effectiveness of standard treatment methods for HAB removal. 	Published research on treatment options.	Completed.
		<ul style="list-style-type: none"> Monitor environmental conditions to determine potential exposure levels. 	Laboratory results on cyanotoxins in bathing areas and drinking water supplies.	In progress. The ATP is currently developing surveillance strategies.
		<ul style="list-style-type: none"> Initiate collaborative epidemiological investigations. 	Epidemiological studies on recreational bathing areas with the CDC.	The CDC's attempt to conduct an epidemiology study on a FL-based community water system failed due to poor participation and unsuitable environmental conditions.



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		<ul style="list-style-type: none"> Evaluate current laboratory analysis methodology. 	Laboratory methods developed and published.	ATP working with the DOH Bureau of Laboratory Microbiology section to QA/QC current methods
		<ul style="list-style-type: none"> Complete risk assessment based on available information. 	Risk assessment published.	Will be done through contract with outside institution.
		<ul style="list-style-type: none"> Develop interim recommendations for exposure limits as needed. 	Recommendations published on ATP web site.	Will be one in concert with the US EPA and other CDC grant recipients (other states).
8-8	Increase the proportion of assessed rivers, lakes, and estuaries that are safe for fishing and recreational purposes	Establish appropriate guidelines/policies for recreational water use.	Guidelines published and circulated.	In progress.
		<ul style="list-style-type: none"> Review current literature and established guidelines. 	Literature review published with supportive documentation.	Will be done through contract with outside institution.
		<ul style="list-style-type: none"> Monitor environmental conditions to determine potential exposure levels. 	Laboratory results on cyanotoxins in bathing areas and drinking water supplies.	In progress. The ATP is currently developing surveillance strategies.
		<ul style="list-style-type: none"> Initiate collaborative epidemiological investigations. 	Epidemiological studies on recreational bathing areas with the CDC	The CDC's attempt to conduct an epidemiology study on a FL-based community water system failed due to poor participation and unsuitable environmental conditions.
		<ul style="list-style-type: none"> Complete risk assessment based on available information. 	Risk assessment published.	Will be done through contract with outside institution.



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Mission: "Promote and Protect Health"

Vision: "Healthier Floridians"

Goal: To prevent disease of environmental origin

Bureau of Community Environmental Health – AQUATIC TOXINS PROGRAM

		<ul style="list-style-type: none"> Evaluate current laboratory methodology. 	Laboratory methods developed and published.	ATP working with the DOH Bureau of Laboratory Microbiology section to QA/QC current methods.
		<ul style="list-style-type: none"> Develop interim recommendations for exposure limits. 	Recommendations published on ATP web site.	Will be one in concert with the US EPA and other CDC grant recipients (other states).