



The Certified Environmental Professional

The Newsletter of the Academy of Board Certified Environmental Professionals

<http://www.abcep.org>

February 2017

President's Message



Mark F. Gerber
ABCEP President

Greetings Environmental Professionals:

In the past month I have watched as ABCEP-related emails come across my screen and have come to the conclusion that we have a very diverse group with great folks willing to step up and move programs forward. I've also noticed a much younger group of professionals getting involved in day-to-day activities of the organization.

We have a number of committees that serve the membership of our group. As I sit in meetings of the Board of Trustees I have the great opportunity to hear what these committees are doing to further the organization and the profession as a whole. The thing that strikes me the most acutely is that as these good volunteers talk about their committees and the membership in general, they genuinely want to see people succeed and genuinely want to provide tools for professionals to do so. In this world that seems to become more cynical every day, it is a wonderful thing to see the desire of one professional to lift another to success.

In the coming years I have full confidence that our organization will be in good, if not better hands than now. As the saying goes; "If you're not moving forward, you're moving backward" and I believe we're moving forward.

As always my door/email is always open for discussion and idea sharing.

Best to you,

Mark F. Gerber, CEP, ABCEP President

Inside:

- *Call for Articles - Solid Waste & Recycling*
- *Surface Water Quality Restoration Case Study - Lake Jesup, Florida*
- *Thirty-Eight Years of the CEP Credential and Environmental Professional Certification*
- *2017 Newsletter Topic Listing*
- *ABCEP Mentoring 101*
- *CEPs in Action*

This month's topic:

WATER QUALITY

March Topic:

SOLID WASTE & RECYCLING

LETTER FROM THE EDITOR

Dear CEPs:

I hope everyone's 2017 has been successful so far and that you are finding renewed interest in your chosen field. We are all feeling some angst when considering the possible directions our profession could take in light of potential administrative and regulatory changes on the horizon. I urge you to participate in the upcoming **NAEP Webinar (March 8) , *Environmental Practice in Flux: Transitioning to the Trump Administration***.

If you are a NAEP member, check your inbox, if not, reach out to Tim Bower at naep@naep.org for more information.

Times of change bring about new thoughts and new ideas. I hope many of you will find a topic (see page 14) this year that is of interest and share your thoughts as well as your projects and research with our community.

I see great articles on the horizon for March - Solid Waste and Recycling - submit yours today!

As always - we don't have a newsletter without your participation.

Your support is appreciated!

Shari Cannon-Mackey, CEP, ENV SP

Newsletter Editor

**KEEP STRONG
AND
MAINTAIN ON**



**Log on to
CEP-EXPRESS
today and
take credit
for all your
hard work!**



The Newsletter of the
Academy of Board Certified Environmental Professionals

CALL FOR ARTICLES on Solid Waste & Recycling

The March edition of *The Certified Environmental Professional*
is devoted to SOLID WASTE & RECYCLING.

We welcome a variety of perspectives on the topic from the
environmental practice community.

Deadline for submittal is March 17, 2017 to
scannonmackey@burnsmcd.com

Articles should be submitted in Word, with all graphics/photos provided in either tif or jpg formats. Do not send PDFs. All exhibits/figures/photos must have sources documented and all permissions to use obtained by the author of the article prior to publication.

For questions, please contact Shari Cannon-Mackey, CEP, ENV, SP, Editor
at 512-872-7132 or by email to scannonmackey@burnsmcd.com

Surface Water Quality Restoration Case Study - Lake Jesup, Florida

William A. Eggers, CEP

Introduction

Surface water quality restoration in nutrient impaired freshwater, estuarine and coastal marine ecosystems requires total nitrogen (TN) and total phosphorus (TP) concentration reductions in source inputs and in situ legacy loads (Havens & Frazer, 2012; Hudnell, 2010; Conley, et al., 2009; Paerl, 2009; Camargo & Alonso, 2006; and Boesch, 2002). While some scientists continue to debate the efficacy of traditional, single-nutrient (TP or TN) reduction versus dual-nutrient (TP and TN) reduction, growing evidence suggests that dual-nutrient reductions are essential to restore water column ecological integrity and healthy freshwater-estuarine-ocean ecosystem connections (Lapointe, Herren, Debortoli, & Vogel, 2015 in press; Havens, 2013; Havens & Frazer, 2012; Paerl, Hall, & Calandrino, 2011; Hudnell, 2010; Conley, et al., 2009).

Regulatory Background

To address the growing crisis of nutrient pollution in surface waters, the United States Environmental Protection Agency (EPA) through the Federal Water Pollution Control Act of 1972 (Clean Water Act, 33 U.S.C. Ch. 26) recommended development of numeric nutrient criteria (NNC) for both TP and TN as an effective strategy to address eutrophication and return impaired surface waters to their intended uses. As the result of a lawsuit filed by the Florida Wildlife Federation and others in 2008, followed by a Consent Decree in 2009, the State of Florida and the EPA worked to establish NNC for Florida surface waters (FDEP, 2009). Ensuing Florida legislation and rule-making by the FDEP established NNC for Florida's lakes, rivers, streams, springs and more than 6,276 of the State's estimated 6,904 km of coastal estuaries. These new statewide NNC rules included biological response criteria. In 2010, the EPA estimated that the total, annual incremental cost to implement the NNC in Florida could be between \$135.5 M - \$206.1 M with only \$28.1 M in predicted benefits (US EPA Office of Water, 2010), while a competing study commissioned by the Florida Water Quality Coalition estimated that the same incremental costs could be between \$3.1 B and \$8.4 B, and that



even using a narrative approach those costs are still \$1.0 B - \$3.2 B (CardnoEntrix, 2010).

Attainment of both NNC nutrient concentrations and biological response criteria will challenge civic leaders, water managers and regulated stakeholders to comply with the new standards, track water quality status and trends, and implement meaningful surface water restoration.

In addition to regulatory changes, scientists and water managers in Florida now realize that 20 years of stormwater regulations and projects that focused on nutrient reductions associated with stormwater source control have not substantially improved water quality conditions (Hudnell, 2010). For Lake Jesup, simulation models of stormwater loading to the lake demonstrated that even if all available 2 lands were converted to stormwater Best Management Practices (BMPs), the pollution reduction to Lake Jesup would be insufficient to restore the lake (Brandt-Williams, 2010). Reduction of in situ nutrient legacy loads is essential to achieve long-term water quality restoration goals for Lake Jesup and most of Florida's surface waters with high in-situ nutrient loads and organic muck deposit accumulation.

Continued from page 4

Lake Jesup Restoration

In 2007, the St. John's River Water Management District (SJRWMD) contracted with AquaFiber Technologies Corporation (AquaFiber) to demonstrate the effectiveness of their proprietary technology/process (AquaLutions®™) as a solution to remove TP from Lake Jesup on a long-term basis and potentially restore lake water quality to state standards. The water treatment facility was funded and built by AquaFiber using private funds. AquaFiber was reimbursed by the SJRWMD based on per pound of TP removed from the lake once the harvested biomass and its associated TP were documented quantitatively, verified by SJRWMD, and transported for proper disposal outside of the Lake Jesup sub-basin (e.g., landfill).

During the 5-year contract period, a mean of 13.8 million liters per day (3.7 million gallons) and a total of 21.7 billion liters (5.7 billion gallons) of post-treatment water were treated and returned to Lake Jesup. The following reductions of in-lake legacy loads of TP, TN, and total suspended solids (TSS) were achieved:

- ➡ Total TP removed was 2,879 kg (6,449 lbs)
- ➡ Total TN removed was 41,023 kg (90,749 lbs)
- ➡ Total TSS removed was over 641,795 kg (1.4 million lbs)
- ➡ Mean lake influent TP and TN concentrations were 0.163 mg/L and 3.48 mg/L, respectively

During the same period post-treatment effluent concentrations of 0.033 mg/L TP and 1.64 mg/L TN were achieved. Mean, influent TSS during that same period was 46.1 mg/L, with mean, post-treatment TSS concentration of 10.22 mg/L.

On average, the results exceeded Florida Department of Environmental Protection (FDEP) NNC for TP in colored lakes (0.050 mg/L) and achieved TN concentrations within the FDEP range for colored lakes (1.27 mg/L - 2.23 mg/L). The post-treatment water also often met or exceeded drinking water clarity (9th quarter effluent TSS was 4.54 mg/L).

The project results demonstrated that AquaLutions®™ was an effective, efficient, scalable, and environmentally safe TP remediation technology for Florida surface waters.

In addition, several additional water restoration benefits were verified including:

- 1) reduction of TN concentrations to meet Florida NNC
- 2) reduction of other pollutant loads sequestered in the biomass harvest (including RCRA-8 metals)
- 3) reduction of in-lake water toxicity
- 4) reduction of water column turbidity

Due to the high flow rate that discharged large volumes of clean, oxygenated water back to Lake Jesup, the project provided qualitative evidence that dissolved oxygen levels and water flow in discharge waters could be enhanced. In addition, cyanobacteria and potential cyanotoxins were removed, and wetland habitat and quality improvements were documented.

Scientific evidence suggests that oxygen depletion can promote the release of pollutants from sediments (e.g. methylation of mercury, manganese, or release of dissolved phosphorus) that can stimulate freshwater harmful algal/cyanobacterial blooms (FHAB's) and potential cyanotoxin production (Hudnell, 2010). Regional-scale facilities that are sited and scaled strategically could be designed to improve oxygen concentrations in eutrophic and hypereutrophic systems where low oxygen levels often have these other deleterious effects. Strategic siting of facilities with targeted clean water discharge points could be used to advance nearshore water quality improvements and enhanced coverage of submerged aquatic vegetation.

The same approach using AquaLutions®™ has been effective in addressing water quality issues on other waters in Florida including: Lake Apopka, Lake Thonotosassa, Lake Hancock, and Lake Trafford; flowing waters (Caloosahatchee River and St. Lucie River); stormwater ponds (Isleworth County Club); and coastal estuaries (Indian River Lagoon).

Author - William (Bill) Eggers, CEP, serves on the ABCEP Board of Trustees and is the President of AquaFiber Technologies Corporation . Bill can be contacted at bill.eggers@aquafiber.com



25%

of US beaches are
closed at least
once a year
because of water
pollution

SOURCE: www.waterbenefitshealth.com



5

Best Cities for Water Quality

1. Portland OR
2. San Jose CA
3. San Francisco CA
4. Boston MA
5. Louisville KY

SOURCE: www.care2.com



5

Worst Cities for Water Quality

1. Las Vegas NV
2. Reno NV
3. Pensacola FL
4. Casper WY
5. Concord NH

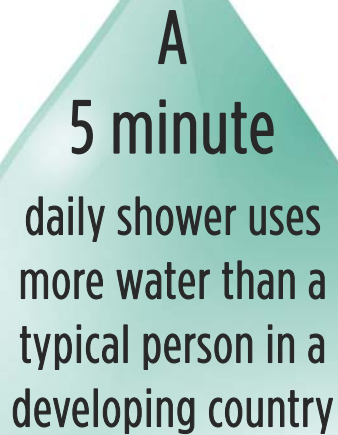
SOURCE: www.care2.com



40%


of America's rivers
are too polluted
for fishing,
swimming, or
aquatic life

SOURCE: www.waterbenefitshealth.com



**A
5 minute**
daily shower uses
more water than a
typical person in a
developing country

SOURCE: www.waterbenefitshealth.com



>1.2
trillion gallons
of untreated sewage,
groundwater, and
industrial waste are
discharged into
US waters annually

SOURCE: www.waterbenefitshealth.com



How does stormwater runoff affect streams?

1. Alters hydrology - more frequent,
larger magnitude, shorter duration flows
2. Alters channel morphology - increased width and down cutting,
reduced bank stability
3. Alters in-stream hydraulics - affecting biologically important parameters like
velocity and shear stress
4. Disrupts balance between sediment supply and transport leading to
increased channel erosion
5. Increases stream temperatures
6. Increases delivery of pollutants
(sediment, nutrients, pesticides, metals, organics, oil/grease)

SOURCE: www3.epa.gov

Thirty-Eight Years of the CEP Credential and Environmental Professional Certification*

Robert A. Michaels, PhD., CEP

*portions of this article have been published previously

Acknowledgments

The National Association of Environmental Professionals (NAEP) and involved NAEP members exhibited pioneering vision in establishing the CEP credential. They exhibited continued vision in sustaining it throughout its tenure within NAEP, and they exhibit continuing vision today in supporting the Academy of Board Certified Environmental Professionals (ABCEP) as the CEP's new guardian. Past and present members of the Certification Review Board (CRB) and of ABCEP have exhibited admirable dedication and volunteerism in serving the CRB, ABCEP, and the environmental professions. They did so, and they continue to do so, in a manner that has preserved and enhanced our credibility over the past thirty-eight years. I especially acknowledge the inspiring contributions of my predecessors as CRB Chairperson: Sherman Rosen (1979-'86) and Charles F. ('Chuck') Zirzow (1986-'93), whose funeral at Arlington National Cemetery I proudly and sadly attended in 1997. I served for 20 years, until 2013, and now also acknowledge my successor, current CRB Chairperson Dr. Kris Thoemke.

Abstract

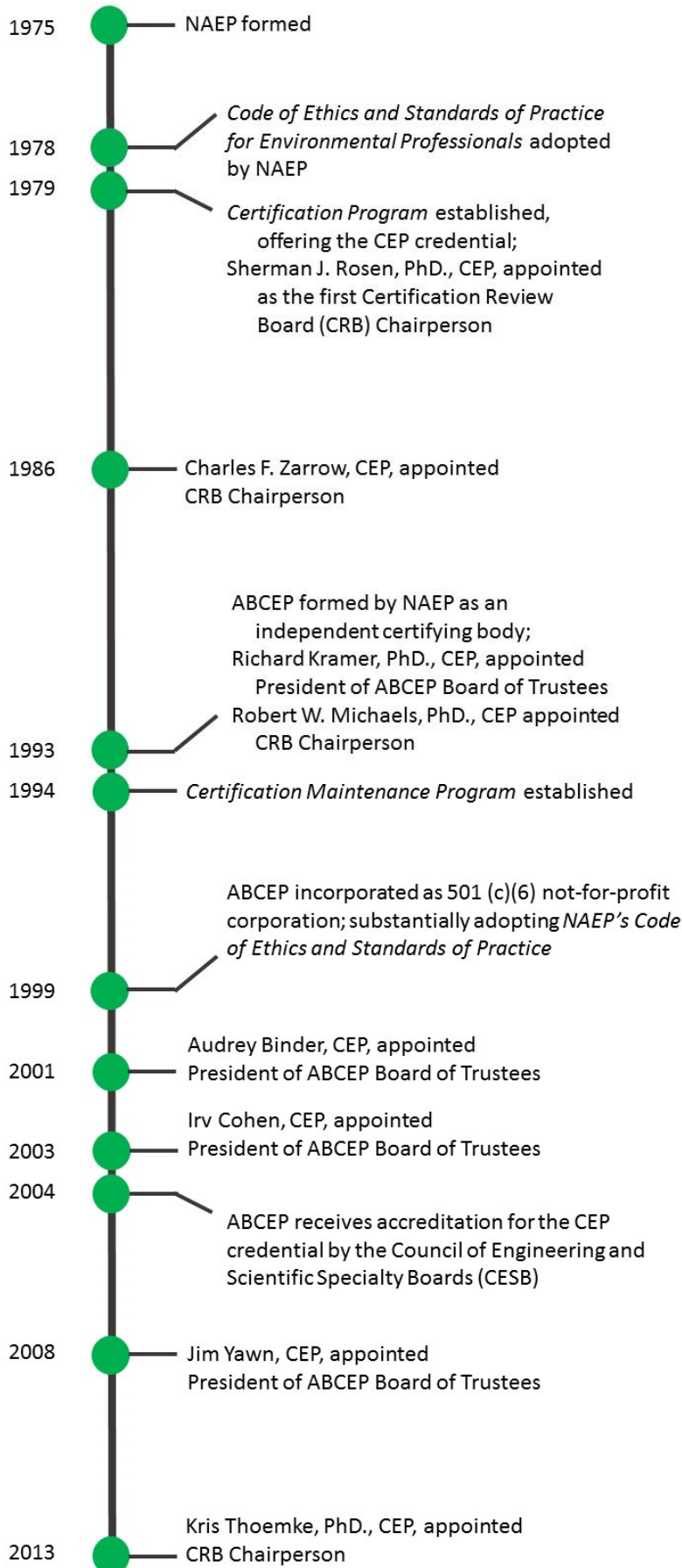
The main purpose of the CEP (*Certified Environmental Professional*) credential, now approaching four decades old, is to validate senior environmental practitioners. The CEP credential was instituted by the National Association of Environmental Professionals (NAEP) in 1979, in an era of rapid growth in population, pollution, environmental specialties, and specialists. NAEP is a membership organization that was founded in 1975. Antitrust legislation and legal opinion, however, soon required professional certifying organizations to become independent of their industry's membership organizations. Accordingly, in 1993, NAEP established ABCEP as an independent certifying body conferring the CEP on meritorious senior environmental professionals. To establish credibility among practitioners outside of NAEP, and enhance credibility among consumers of environmental services, ABCEP also obtained accreditation. The CEP was accredited in 2004 by

the Council of Engineering and Scientific Specialty Boards (CESB). Evaluation of CEP candidates is based upon peer review, as in the American justice system, requiring trial of defendants before a jury of their peers; and as in the academic peer review system for evaluating manuscripts submitted for publication. These and other special features of the CEP, such as in-depth candidate evaluation via interviews and essays, have earned broad recognition of the CEP credential in government, industry, consulting, academia, and the U. S. military.

Evolution of Environmental Professional Certification

Environmental professional certification programs evolved from earlier forms of validation including apprenticeships, training programs, education programs, and licensing. In the Industrial Revolution, would-be professional artists and artisans apprenticed themselves to practitioners who had earned favorable reputation. Generations of mentors and students proved themselves by practicing their trades and, if they did what they did well, they did well. Our Information Age, however, has imposed new requirements on many practitioners. Beyond training they might need certificates attesting to training, degrees attesting to learning, and licenses allowing them to practice. The Information Age, ironically, was compensating for information inadequacy, as the number of practitioners and specialties grew, and as the distances over which practitioners were recruited expanded more rapidly than word of mouth, and so more rapidly than reputation.

With population growth also came space and resource limitations, increasing urgency of land use and pollution issues, and environmental practitioners to address them. They were a new breed of professional, with expertise drawn from the pedigreed disciplines, from sciences and social sciences such as physics, biology, chemistry, political science, and communications. Environmental professionals were hybrids, each mongrel breed combining a unique combination of characteristics drawn from the traditional pedigreed disciplines. New rules emerged for accepting them.



Continued from page 8

In Darwinian fashion, as demand for environmental services increased, so did the number of specialists to fill them. In response, new forms of validation arose, such as college degrees that credited 'life experience', though the validity of these validations was itself uncertain. The growing public need to qualify environmental practitioners, coupled with the proliferation of specialties and

specialists, together created a niche for organizations conferring environmental professional certification, including ABCEP: the Academy of Board Certified Environmental Professionals, which offers the CEP credential, now approaching four decades old.

The CEP Credential

To validate senior environmental professionals, the CEP credential (CEP, for *Certified Environmental Professional*) was instituted by the National Association of Environmental Professionals (NAEP), a membership organization that was founded in 1975. By 1976 NAEP had 400 members, on its way to upwards of 3,000. By 1978 NAEP also had a *Code of Ethics and Standards of Practice* that later gained recognition (in Federal Court) for the environmental professions generally, that is, among environmental professionals, whether or not they were CEPs or members of NAEP.

NAEP instituted its Environmental Certification Program, conferring the CEP credential, in 1979, and appointed Sherman J. Rosen as the first Certification Review Board (CRB) Chairperson. Charles F. ('Chuck') Zirzow succeeded Sherm Rosen in 1986. I succeeded Chuck Zirzow in 1993. [see timeline at the left]

The Certification Program ultimately could not remain within NAEP. A Federal anti-trust case in established the precedent that certifying organizations must serve entire professions, not just members of a particular professional organization.

Continued from page 9

ABCEP By-Laws define seven purposes, to:

- 1) *periodically evaluate professional standards to which environmental professionals should adhere,*
- 2) *maintain a certification credential for meritorious environmental professionals,*
- 3) *evaluate candidates applying for certification,*
- 4) *bestow upon candidates found to be meritorious relative to applicable professional standards the status of Certified Environmental Professional (CEP),*
- 5) *maintain and enhance the credibility of the CEP credential,*
- 6) *render the CEP credential available to qualified environmental professionals by all means consistent with the Academy's Bylaws, and*
- 7) *do everything necessary, proper, advisable, or convenient for the accomplishment of the Academy's purposes and objectives and to do all other things incidental to them or connected to them that are not otherwise forbidden.*

Accreditation

The problem of validating professionals, not only environmental professionals, resembles the problem of identifying a 'Philosopher King' as guardian of Utopia in Plato's "Republic." Plato had strong feelings about the type of person who should serve, something along the lines of being intelligent, philosophical, objective, and benevolent... in short, much like Plato himself. Yet, selecting such an individual (other than oneself) was difficult, as the selection would depend upon the choice of selectors. The problem was recursive: a valid Philosopher King could be chosen only by validated selectors, who would have been chosen by validated selectors of the selectors, with no clear end to the chain. Few utopias, therefore, exist.

Ominously for democracies, Plato's problem proved intractable. Ominously for many professions, including environmental, multiple certifying organizations have appeared, raising the thorny platonic issue of how each profession might select a valid Philosopher King. Can the environmental professions select a certifying body trust

worthy and trusted among consumers of their services? Toward that end, certifying organizations have enhanced the credibility of their professional credentials via accreditation by organizations that serve multiple professions under one umbrella.

In April 2004 ABCEP's CEP credential received accreditation by the Council of Engineering and Scientific Specialty Boards (CESB) headquartered in Annapolis, Maryland. ABCEP's accreditation, reviewed periodically, has been maintained consistently. The Council accredits Certified Industrial Hygienists and other widely-recognized professionals. Its Member Boards include the following not-for-profit certifying organizations (see www.cesb.org):

- ◆ AACE International
- ◆ Academy of Board Certified Environmental Professionals
- ◆ American Academy of Environmental Engineers
- ◆ American Board of Health Physics
- ◆ American Board of Industrial Hygiene
- ◆ American Indoor Air Quality Council
- ◆ American Society of Professional Estimators
- ◆ Board of Environmental, Health & Safety Auditor Certifications
- ◆ Building Inspection Engineering Certification Institute
- ◆ Certified Environmental, Safety and Health Trainer Board of Certification
- ◆ Institute of Hazardous Materials Management
- ◆ Institute of Professional Environmental Practice
- ◆ National Academy of Forensic Engineers
- ◆ Society of Wetlands Scientists Professional Certification Program

VISIT CEP-EXPRESS

**To learn more about the application process
and how to track your maintenance points
to maintain your CEP and CEP-IT!**

<http://abcep.org/membership/cep-express>

Continued from page 10

Philosophy of CEP Candidate Evaluation

The philosophy underpinning evaluation of CEP candidates is special. Most fundamentally, evaluation is conducted via peer review, in contrast to other credentials that are awarded based upon results of a short-answer or multiple-choice examination. CEP applicants must show evidence of having earned a college or university degree from an accredited institution, that is, one whose accreditation is recognized by the Council on Higher Education Accreditation, which weeds out 'diploma mills'. ABCEP assumes that CEP candidates who earned such a degree were tested sufficiently via fact-based short-answer and multiple-choice questioning in their fields of expertise and beyond. Accordingly, CEP candidate examinations are conducted via essay questions completed without supervision and submitted whenever ready.

Peer review serves well in selecting CEPs from among the population of applicants, just as it serves well in selecting candidates for public office in our representative democracy, in which a broad electorate of peers can vote. Peer review also underpins the American justice system, in which defendants are judged by a jury of their peers. It underpins our system of evaluating professional manuscripts submitted for publication in academic and technical journals. In short, peer review, which is the best solution yet devised to solve the platonic problem of selecting a Philosopher King, is embodied in democratic government, in the jury-based justice system, in the academic publication system... and in evaluation of candidates for the CEP credential.

The CEP is special also in facilitating self-evaluation by potential applicants before they apply. This is accomplished by publicizing all essay examination questions on ABCEP's web site (www.abcep.org) from which applicants choose five to answer. In the CEP evaluation system, questions are not sprung on candidates by surprise. Unlike correct-or-incorrect multiple-choice or short-answer questions, essay responses are tailored to each candidate's professional experience. Essay responses facilitate evaluation of the degree of depth and clarity of the candidate's thinking, and his or her ability to communicate and persuade. More than being correct or incorrect, CEP candidate essay responses are judged by their quality and credibility, much like a manuscript submitted for publication. Each essay question is no more a surprise to the applicant than is the question addressed by a

manuscript submitted for publication by a prospective author. In both cases a professional-quality product is expected and, if not provided, the result typically is rejection.

Three side benefits result from public availability of CEP examination essay questions. First, exam security is assured: no potential applicant conceivably can gain advantage over any other by obtaining prior knowledge of exam questions, as each potential applicant has equal prior access. Second, the ability to evaluate one's readiness prior to application is enhanced. Third, the rejection rate of CEP candidates is, I believe, relatively low. When I last calculated it, the rejection rate was low, about 10 percent. This probably reflects the decision of less-prepared potential applicants to develop further professionally before applying for the CEP credential.

The CEP also is special if not unique in revolving around a Certification Review Panel whose activities are coordinated by a Lead Reviewer. Each CEP candidate is evaluated by such a Panel, to which fully seven members of the (much larger) Certification Review Board are assigned. The large size of each Panel protects candidates against the possibility of a 'rogue review', as just over half of all respondents must favor certification; one dissenter will not prevail. Further, the Panel system preserves independence of peer reviews by directing all reviews to the Lead Reviewer, who is the only team member who sees the full scope of Panel member responses.

Mechanics of Certification

[Editor's note - the following section outlines the functional areas in which CEP certification was originally based. In September 2015, the ABCEP Board of Trustees announced the addition of another functional area, Sustainability. Applicants are also no longer required to designate a functional area as part of the application process.]

Certification Program expenses are paid primarily from administrative fees to applicants and annual dues of CEPs. Environmental professionals may download the CEP application from the ABCEP web site, as electronic information transfer is fastest and least expensive. CEPs are awarded in any of five functional areas, which represent areas of emphasis of a practitioner. Applicants have a choice of five functional areas, ranging from emphasis on technical to academic to administrative functions, as follows:

Continued from page 11

Environmental Assessment

Evaluation of risks to (or past impacts upon) the occupants of ecosystems, workplaces, or residences exerted by physical, chemical, or biological agents to which exposure may occur (or may have occurred).

Environmental Documentation

Preparation of reports, presentation of facts, and completion of other actions to establish administrative records demonstrating compliance with environmental statutes, regulations, and permits.

Environmental Operations

Management of facilities in accordance with requirements of environmental statutes, regulations, and permits.

Environmental Planning

Arrangement for future facility construction, operation, and/or management in accordance with anticipated requirements of environmental statutes, regulations, and permits (or permit renewals).

Environmental Research and Education

Conducting and reporting on original investigations into the dynamics of environmental phenomena, and teaching about such phenomena as investigated by oneself and/or other investigators.

When completed, the application is returned to ABCEP's office via the internet, and an administration fee is paid. Applicant files are sent to the CRB Chairperson, who assigns a Certification Review Panel (identified by a unique number). Assigned CRB members may recuse themselves if they have a conflict of interest, which has happened from time to time.

Candidates arrange to have official transcripts attesting to their studies and degrees, and eight supporting letters, sent to ABCEP's office, from which they are distributed with other application materials to the candidate's Certification Review Panel. The candidate and a designated supervisor or client are interviewed by the Lead Reviewer, who raises any issues of concern expressed by Panel members. Although only the Lead Reviewer conducts the interviews, each candidate is richly represented to each Panel member. Indeed, Panel members become quite familiar with candidates' education, affiliations, experience, publication record, and abilities.

ABCEP aims for completion of candidate evaluation within about three months of application assignment to a Panel. Panel members are asked to return their reviews ('Action Reports') to the Lead Reviewer, ABCEP office, and CRB Chairperson within one month of assignment. The Lead Reviewer is asked to complete his/her own evaluation, as well as conduct interviews, within three months of assignment. The Lead Reviewer recommends to the CRB Chairperson either certification or denial of certification based upon synthesis of all individual Panel member peer reviews into a single full-Panel recommendation. The Chairperson's role is to make the final decision to certify or deny certification based upon consideration of all peer reviews and other communications, to assure that the full-Panel recommendation was fair rather than biased. I rarely if ever have reversed a Lead Reviewer. CEP certificates are issued, signed by the Lead Reviewer and CRB Chairperson.

Certification Maintenance

To remain certified, CEPs must keep current in their field. In 1994 ABCEP established the *Certification Maintenance Program (CMP)*, requiring CEPs to demonstrate via a point system that they have kept current by engaging in a range of professional activities. Such activities have included employment, attending conferences, teaching courses and workshops, publishing articles, and serving the profession on committees or in other ways.

Continued from page 12

ABCEP's program functioned on a five-year cycle of Certification Maintenance Point evaluation. Requirements of the Council on Engineering and Scientific Specialty Boards for our continued accreditation, however, have required ABCEP to join many if not most other professions by adopting an annual certification maintenance cycle period.

Status and Stature of the CEP Credential

As shown, the CEP credential was unique and forward-looking in 1979, its year of inception. Today it remains so. I know of no other credential that has achieved accreditation based upon such a dynamic, broad body of knowledge that is defined, not as much by a list of facts, but by a list of the journals and other sources of emerging information. CEP examinations are tailored to the specialization of each candidate via the choice of responding to five essay questions from a larger, wide-ranging list.

CEPs are certified based upon their ability to function in a regime of fast-paced publication of research and administrative developments, not their ability to memorize lists of facts. In my own experience, for example, regulatory changes may respond to findings that airborne particulate matter (PM) can exert adverse health effects with brief (real-time) exposure (Michaels 1996, 1997, 1998; Michaels and Kleinman 2000). Regulatory limits on airborne PM currently reflect the previous belief that only longer-term exposures could damage health, resulting in regulatory limits on only the daily and annual average concentrations of airborne PM. This example indicates clearly that no short-answer or multiple-choice questions will reflect our evolving understanding of the public health and regulatory issues relating to airborne PM...but essayists can conduct research into the *current* scientific and/or regulatory literature to produce a professional-quality explication of the pros and cons of adding, say, a one-hour average to the US Environmental Protection Agency's arsenal of airborne PM regulations.

The uniqueness of the CEP credential has garnered respect and acceptance. Indeed, as a result, the CEP has earned broad recognition in hiring, salary determination, and career advancement in government, industry, consulting, academia, and the military. The military, for example, has exhibited a special interest in the CEP credential, in part because military environmental professionals must maximize their credibility among civilian populations where closure of military base situated in or near

civilian communities are planned or underway. These projects are enormous, and enormously expensive. Their costs can be mitigated significantly if base closure proposals are accepted by civilian stakeholders. In short, competence enhances credibility, and credibility enhances economy.

That reasonable people are more likely to accept reasonable proposals that are presented by credible professionals is a truism in almost any arena, not just in the military.

The CEP credential has contributed significantly to validation of senior environmental professionals in many or most arenas. Having earned my own CEP in the Functional Area of *Environmental Assessment* has enhanced my career as an environmental professional specializing in assessment and management of toxicological risks to human health potentially posed by environmental contaminants. I am proud of ABCEP and the CEP credential conferred on me, which have enhanced my credibility and career, just as so many of my CEP colleagues have expressed similar feelings about the positive role of ABCEP and the CEP credential in their careers.

Literature Cited

- Michaels, R. A.; and M. T. Kleinman (2000).** *Incidence and apparent health-significance of brief airborne particle excursions.* **Aerosol Science and Technology**, 32:93-105, February;
- Michaels, R. A. (1998).** *Permissible daily airborne particle mass levels encompass brief excursions to the 'London fog' range, which may contribute to daily mortality and morbidity in communities.* **Applied Occupational and Environmental Hygiene**, 13(6):385-94, June;
- Michaels, R. A. (1997).** *Particulate matter policy.* **Science**, 278:1,696 (letter); 5 December;
- Michaels, R. A. (1996).** *Airborne particle excursions contributing to daily average particle levels may be managed via a one-hour standard, with possible public health benefits.* **Aerosol Science and Technology**, 25:437-44, November.

Author - Robert Michaels, PhD., CEP, is the President of RAM TRAC Corporation and serves on the ABCEP Board of Trustees. Robert can be contacted at bam@ramtrac.com.

2017 NEWSLETTER TOPICS

Submit all articles to Shari Cannon-Mackey at scannonmackey@burnsmcd.com

JANUARY

New Year - New Ideas
(Reflections and Resolutions)

JULY

Renewable Energy
(due July 21, 2017)

FEBRUARY

Water Quality
(due February 17, 2017)

AUGUST

Air Quality/Greenhouse Gases
(due August 18, 2017)

MARCH

Solid Waste / Recycling
(due March 17, 2017)

SEPTEMBER

Ecosystem Restoration
(due September 22, 2017)

APRIL

Habitat Conservation
(due April 20, 2017)

OCTOBER

Inland Lakes and Rivers
(due October 20, 2017)

MAY

**State Environmental Quality
Regulations vs NEPA**
(due May 19, 2017)

NOVEMBER

Remediation
(due November 17, 2017)

JUNE

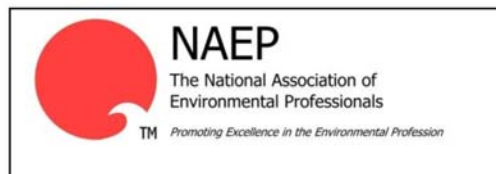
Coastal Systems
(due June 16, 2017)

DECEMBER

**CEPs in the Construction
Sector** (due December 15, 2017)

See you in Durham March 27-30!

Please stop by the ABCEP Booth at the
2017 NAEP Annual Conference!



As a CEP you are recognized as a leader in our industry. How do you demonstrate that day to day? Being a member NAEP is an excellent way to be part of a very active conversation about what we are doing and where our industry is going. It is also a great way to easily build your CEP credits as we near the end of the year. Join us!

Please visit <http://www.naep.org/> or call NAEP Headquarters at 856-283-7816 for more information.

Thank you,

Leslie Tice, CEP

NAEP Elected Board Member and Membership Committee Chair

leslie.tice@erm.com

ABCEP Mentoring 101

Courtesy of Liz Johnson, CEP, and Tina Richards, CEP

ABCEP has a mentoring rate of 100%! Mentors provide a point of contact for CEP and CEP-IT applicants during their application process. And it is no small feat to match-up mentors with mentees. As the program currently stands, there are 35 mentors assigned to 72 mentees.

So how does a mentee get assigned to a mentor? The Mentoring Committee follows the following process to assign and track mentors and mentees:



Role of the Mentor:

- ▶ **Commit** at least one year to the mentoring program
- ▶ **Commit** at least one hour of support/interaction with the mentee per month (via email, phone, or face-to-face)
- ▶ **Inspire, encourage, and support** the mentee
- ▶ **Contribute** to the mentee's professional development

For additional information on the Mentoring Program or to sign-up to be a mentor, please reach out to Andrea Bower at office@abcep.org or Bob Michaels at ram@ramtrac.com

CEPs in Action

CENTRAL FLORIDA - A group of Central Florida CEPs meet quarterly for lunch. Pictured below:

Left (front to back): Bill Eggers, Tina Richards, Peter Gottfried. Right (back to front) Liz Johnson and Susan Elfers



What are CEPs and CEP-ITs doing in your area?
Let us know - no event is too small nor too big!
Send your photos and descriptions to
Shari Cannon-Mackey at scannonmackey@burnsmcd.com

***Our newsletter is only as strong as
our members can make it.***

***So don't be afraid and
GET INVOLVED!***

The Certified Environmental Professional

The ABCEP Newsletter is published monthly and is intended to be a:

- ◆ Communication vehicle for the Board of Trustees and ABCEP Committees to inform and engage with CEPs and CEP-ITs on current activities within ABCEP and its future direction.
- ◆ Forum to report on current and emerging environmental issues, regulation and policy changes, and professional trends.
- ◆ Forum to provide professional guidance and advice to expand the professional growth and knowledge of members.
- ◆ Means for members to communicate with one another on current accomplishments, interesting projects, or lessons learned on the job with new approaches and successful problem solving solutions.
- ◆ Platform to acknowledge, highlight, and welcome active CEPs and CEP-ITs.

All members are encouraged to be active in their profession and affiliated professional organization.

If you have an article or a topic of interest that you would like presented in *The Certified Environmental Professional* newsletter please submit your completed article or topic request to Shari Cannon-Mackey, CEP ENV SP, at scannonmackey@burnsmcd.com; or to Andrea Bower at office@abcep.org.

Thank you,

Shari Cannon-Mackey, CEP, ENV SP
Editor