

Historic makeover:

The restoration of Wellfleet's Herring River

An event that took place a hundred years ago serves today as a classic reminder of how some actions can produce unforeseen, unintended and even calamitous environmental consequences. But unlike other examples, this story can have a happy ending.

In 1908, Wellfleet constructed a dike across the Herring River, primarily to reduce the mosquito population by blocking tidal flow to the river's extensive salt marsh system, but also to create agricultural and development opportunities. Unfortunately, this initial action produced more – not less – mosquitoes; so to increase drainage, ditches were cut in the marsh and the river was channeled.

The diking and ditching set in motion an ecologically-disastrous chain of events. In the absence of regular tidal flow, salt marsh plants died out. Salt marsh-dependent animal species – including shellfish – also disappeared, and large sections of wetlands were eventually overrun by upland shrubs and trees.

Drainage exposed hundreds of acres of peat, which when dried out, generated highly acidic conditions that significantly lowered the pH of the water. This created a toxic environment for herring and other fish species. The low pH caused underlying layers of clay to leach out aluminum – also highly toxic to fish.

If that weren't enough, restricted tidal flow led to oxygen depletion in the river, which produced even more fish kills.

In the ultimate irony, the mosquitoes have flourished in these inhospitable conditions; but with predator fish species gone, a natural control over the mosquito population no longer existed.

In the late 1960s, the dike's rusted sluice gate gave way, and once again saltwater flowed into a small portion of the former salt marsh. Very quickly, the area began to rebound;



Photo: Courtesy Cape Cod National Seashore

upland vegetation yielded to a rebirth of the marsh grass *Spartina*, and marsh-dependent animals reappeared.

Despite these promising signs, Wellfleet voted to repair the gate in 1971.

It was at this point that APCC became the leading voice for restoration of the marsh. A vigorous debate ensued for several years, with APCC calling for restoration, and opponents expressing concerns about potential flooding to two cottages and a portion of a golf course. A compromise was reached, requiring the tidal flow to be maintained at levels present before the gate was repaired. APCC commissioned a study of vegetation and tidal flow to determine what those pre-repair levels should be. But once the repairs were made, the gate was never reopened, and plant and animal life that had returned once more disappeared.

In 1983, a new approach was offered. Dr. John Portnoy, ecologist for the National Seashore, suggested the gate be opened gradually so results could be carefully monitored. The town agreed, and the gate was partially opened to allow increased, but not completely free, flow into the marsh.

The National Seashore then embarked on an exhaustive decades-long hydrological study of the Herring River system spearheaded by Portnoy. The study carefully mapped out potential impacts to private property and the existing environment if the Herring River were allowed to flow freely as it did over a hundred years ago.

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**NOTES FROM
MAGGIE GEIST,**
Executive Director

A Tribute to Edward Christian “Tad” Kuhn



We are very saddened to report the unexpected death on September 30, 2005 of our beloved Tad Kuhn, APCC's development director. Tad's generosity of spirit, consideration of co-workers and dedication to APCC were evident to all of us privileged to work with him. Our loss is both deeply personal and professional.

Tad arrived at APCC in the fall of 1998. He brought sophistication and polish to our organization without surrendering our grassroots legacy. He refined and clarified our message while broadening our connections to the larger community on Cape Cod. Tad loved the Cape Cod landscape, understood in his bones why others did as well and was able to capture that sentiment and weave it into all of our outreach efforts. Tad's ideals and insights are forever firmly embedded into every facet of our organization.

From our vantage point, we could readily see the deep devotion and love Tad had for his wife, Karyn, and their two boys, Hayden and Gabe. Pictures of the family and the boys' artwork filled Tad's office and tales of the family's adventures and outings were frequent topics of conversation in the

halls. Family visits to the office were always welcome and always special days for us.

Tad's professional contributions to APCC and his personal warmth to the entire APCC family will continue to inspire us. His spirit will remain with us and be forever cherished.

Friends of Tad and Karyn have established the “Tad Kuhn Memorial Scholarship” to honor Tad's memory and to provide financial assistance for the college education of their children, Hayden and Gabe.

Donations can be made payable to “College America” with a notation on the check “f/b/o Edward Hayden Kuhn and Gabriel Kuhn 529 Plans” and an indication on the check or a cover letter of the percentage to be allocated to each child.

Donations should be mailed to:

Northwestern Mutual Financial Network
6314 Fly Road
P.O. Box 4718
Syracuse, NY 13221
Attn: Chris Smith

Herring River

Continued from cover

Restoring natural salt water flow to the Herring River system has been a complicated endeavor; a scientific understanding of the process was essential. Physical and economic impacts to private property in the flood plain were analyzed, as were potential impacts to groundwater and existing septic systems.

Other factors were also considered. Acidic soils and toxic metals produced by the drained marsh could poison fish populations if tidal flushing carries too much sediment downstream too quickly. Plus, a large influx of sediments could smother downstream shellfish beds.

Changes to the system could also temporarily increase the likelihood of fecal coliform contamination.

Thanks to thorough scientific modeling, as well as the development of a cooperative working relationship among the National Seashore, the town, property owners and other stakeholders, the town and the National Seashore recently signed a memorandum of understanding to guide the restoration efforts as they move forward.

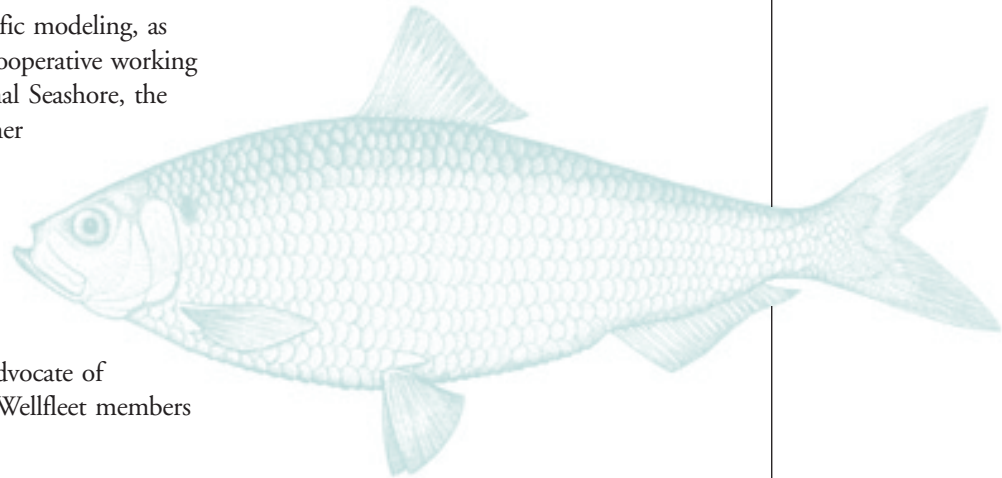
APCC has been a strong advocate of the process, and has urged its Wellfleet members

to support land purchases that set the stage for the next phase of restoration.

APCC also played a part in successfully urging federal officials to allocate funds for those land purchases.

If all goes as envisioned, one day the Herring River salt marsh system will be restored to a natural state, much as it functioned for 2,000 years before European settlement.

At 1,100 acres, the Herring River system will be the largest salt marsh restoration project in the entire Gulf of Maine, and a lasting tribute to the individuals who worked on its revival.



“APCC was the leading voice for restoration of the Herring River marsh.”

Regional wastewater initiative moves forward

This summer, an ordinance creating the Cape Cod Wastewater Collaborative was submitted to the Barnstable County Assembly of Delegates. The ordinance was drafted by the county-appointed blue ribbon panel, charged with studying wastewater issues on Cape Cod. APCC is an active member of the panel.

If adopted by the assembly, the ordinance would establish the Wastewater Collaborative as a county department operating as a partnership between the county and participating towns. It would focus on obtaining federal, state and public-private funding to help towns fund wastewater infrastructure. It would also help coordinate wastewater planning efforts between towns that share watersheds.

Prior to submittal of the ordinance, APCC was the principal drafter of a white paper that laid out the need for a

regional approach to address wastewater problems and made recommendations for future actions. APCC and other members of the blue ribbon panel also conducted an educational workshop for the Assembly of Delegates about the Wastewater Collaborative. Three public hearings were also held across the Cape to give communities an opportunity to comment on the proposed ordinance.

Recently, APCC and other community leaders launched a Cape-wide education campaign to improve awareness of the link between septic systems and nitrogen, and the effects of nitrogen on the Cape's coastal waters. The campaign will also encourage citizens to learn more about wastewater planning in their communities. APCC was one of the contributors that helped fund the education initiative.

New board members elected at annual meeting

APCC members at the September annual meeting elected two individuals to the organization's board of directors. Joining the board are John E. Barnes of Falmouth and Mary L. Hidden of Orleans. See below for a profile of the two new directors.

APCC also wishes to extend its thanks to several departing board members who have reached the end of their terms. Retiring are Jo Anne Miller Buntich, Kurt Hellfach, Ron Reed and Charlie Thomsen.

John (Jack) E. Barnes (Falmouth)

While retired, Jack keeps himself busy with environmental and educational community activities. Jack is a director of the Falmouth Associations Concerned with Estuaries and Saltponds (FACES), chairman of the Falmouth Friendly Lawn Certification campaign, and member of APCC, The 300 Committee, Coalition for Buzzards Bay, MBL Associates, WHOI Associates, Massachusetts Audubon Society, Falmouth Historical Society, West Falmouth Library and Heritage Plantation.

Jack served more than 22 years as a senior executive in financial management, external relations, and strategic planning for Ford Motor Company before retiring in 1991. Jack and his wife have been Falmouth residents since 1992.



Mary (Molly) L. Hidden (Orleans)

Molly's family has owned a home on the Cape since the early 1950s. Molly retired to Orleans in 1994 after a rewarding career in the mutual fund industry in Boston, most recently as senior vice president for institutional products for the Keystone Group. She holds a degree in economics from Smith College, served on its board for ten years, and continues as an active alumna.

Molly has served on the town of Orleans finance committee and the Citizens Forum board. She has been a



Defenders of the environment

APCC members and friends gathered in mid-September to attend the organization's 37th annual meeting. Highlights of the year's accomplishments were featured, and new APCC board members were chosen. Also, four individuals were recognized for their important contributions to the protection of Cape Cod's environment.

Dr. John Portnoy, ecologist for the Cape Cod National Seashore, received the APCC Paul Tsongas Environmental Recognition Award for his work with salt marsh restoration efforts on the outer Cape. His careful scientific research is laying the groundwork for restoration of the Herring River estuarine system in Wellfleet, which, once completed, will be the largest salt marsh restoration project in the entire Gulf of Maine. For more information about the history of the Herring River restoration, see story on page 1.

The APCC Volunteer of the Year Award was presented to Winifred Feightner for her many years of dedicated work at APCC. Winnie has fastidiously organized and maintained APCC's library for longer than anyone can remember. Although a resident of Orleans, Winnie chose to continue with her invaluable volunteer work even after the

trustee of the Orleans Conservation Trust for ten years and currently serves as its clerk/treasurer. She is also involved with the Massachusetts Audubon Campaign for Wellfleet Bay and is a director of the Cape Cod Chamber Music Festival.

APCC board officers selected

APCC's board of directors elected a new slate of officers.

Alan McClennen, Jr. was elected president to replace Ron Reed, who is retiring after two terms. Alan, who joined APCC's board last year, brings with him 29 years of professional experience as a municipal planner.

Also chosen for officer positions are Gwen Pelletier as vice president and Bill Litchfield as treasurer. Susan Shephard will continue to serve as clerk. Gwen is replacing Mark Robinson, who is vacating the position of vice president but will remain on the board. Bill takes over the treasurer's position from retiring board member Charlie Thomsen.

APCC congratulates all elected officers, and also expresses its sincere thanks to Mark, Charlie and Ron for their strong leadership.



Alan McClennen, Jr.

ment honored by APCC

organization moved its headquarters from Orleans to Barnstable Village.

The Esther Snyder Outstanding Achievement Award for Environmental Excellence was given to John J. Clarke, director of advocacy for the Massachusetts Audubon Society and a one-time resident of Cape Cod. Included among his numerous contributions to Cape Cod environmental protection is his collaboration with Senator Robert O'Leary on an amendment to the Cape Cod Land Bank. The amendment enabled Cape towns to transfer their participation in the Land Bank to the Community Preservation Act in order to take advantage of state matching funds.

APCC also honored the memory of James E. Tobin, who passed away earlier this year. Jim was a former board member and longtime friend of APCC. Jim's wife, Nina Tobin, accepted a plaque from APCC on his behalf.

Two Cape communities consider DCPC option

Mashpee and Barnstable have separately been considering use of the District of Critical Planning Concern, a planning tool that creates a time-out from certain types of development while new regulations are written and implemented. DCPCs are designated for areas where specific resources are in need of special protections. A DCPC nomination must be accepted by the Cape Cod Commission and sent to the Barnstable County Assembly of Delegates for official designation. The town then has one year to write new implementing regulations. Although both Mashpee and Barnstable would use the same DCPC regulatory process, the type of DCPC and the manner in which it would be used are distinctly different in each municipality.

Mashpee

Early in 2004, APCC voiced the opinion that Mashpee should consider a DCPC as a means to address the serious traffic and water resource problems the town is experiencing due to unmanaged growth. Inspired by APCC's suggestion, the Mashpee Planning Board has for several months worked on a draft for a town-wide DCPC to protect groundwater, fresh surface water and marine water resources found throughout the community. During that time, the planning board sought public input on the proposed DCPC nomination. APCC twice submitted comments supporting the DCPC, but suggested that its scope be

narrowed and that additional supporting data be included in the nomination form – recommendations the planning board largely adopted. Despite the planning board's efforts, the town's board of selectmen voted not to support the DCPC. However, town officials did decide in late summer to convene a blue ribbon committee to seek strategies for addressing water resource issues and traffic congestion. In response to the above developments, the planning board postponed formally nominating the town as a DCPC. The DCPC will be revisited if the blue ribbon committee fails to produce a plan for the town.

Barnstable

In contrast, the town of Barnstable is pursuing a DCPC in a very specific geographic region of limited size, but the DCPC's focus would be on the protection of several different types of resources, including water, historic and natural resources. The Pond Village DCPC was inspired by residents of the small north Barnstable community who were concerned about the potential for inappropriate growth to adversely impact the area's rural character and natural resources. The size of the DCPC area being considered by the town was initially reduced, but was largely restored to include properties that could have an impact on Hinckley's Pond and other resources. APCC testified in support of the Pond Village DCPC during two Cape Cod Commission hearings held for consideration of the nomination. On both occasions, APCC also pointed out that a much larger area of Barnstable north of Route 6A possesses many of the same resources and characteristics as Pond Village, and faces the same threats from inappropriate development. APCC urged the town to explore innovative planning strategies to protect Pond Village, and to also focus its efforts on implementing those same planning strategies for the rest of Barnstable's north side.

Salt marsh monitoring update

APCC's team of volunteers, charged with monitoring salt marsh restoration projects at six Cape Cod salt marshes, has concluded another season of monitoring. Three of the six marsh sites are now in the post-restoration phase. Ideally, each site undergoes three consecutive years of pre-restoration monitoring, three years of post-restoration monitoring, and then post-restoration monitoring at the five and ten year marks. Wings Neck salt marsh in Pocasset has undergone the three-year post-restoration monitoring, and will now be less actively monitored. Monitoring will resume at this site in 2007. However, the Wings Neck volunteers are very committed and may choose to continue monitoring water salinity. Wings Neck data collected thus far is now being analyzed for trends linked to the marsh restoration.

A new site has been added to the program. Namskaket Creek, on the Orleans-Brewster border, is a priority site slated for restoration in the autumn of 2006. Weather permitting, preliminary gathering of plant and water salinity data will begin this autumn and resume next summer prior to tidal restoration.

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Intern project expands village revitalization/open space protection efforts

Growth management efforts in two Cape Cod villages were the focus of APCC's Herbert E. Whitlock Internship project this summer.

The 2005 project evolved from the successes of last year's intern project in Dennisport. In 2004, APCC's conceptual visualizations of a revitalized Dennisport helped persuade the town to pass a landmark village center bylaw at the same time that voters approved a significant open space purchase.

APCC promotes local initiatives that protect natural resource areas from development and reduce the impacts of sprawl. With this in mind, APCC used its internship program the last two years to assist towns in developing strategies for channeling growth to existing village centers that have the appropriate infrastructure, while reducing development potential outside of those centers.

This year, Whitlock intern Juliana Gamble's assignment was to help local officials establish a foundation on which sound growth management planning could be developed for the village center area of Orleans and in North Falmouth Village. Juliana, who is pursuing a masters degree in architecture and urban planning at Harvard Design School, was able to utilize her skills in those efforts.

Main Street, Orleans

APCC met with the Orleans Planning Board to discuss general goals for the village center. Town officials were encouraged to study housing above retail, a compatible mix of commercial uses, density of development, streetscaping,

transportation and parking. Also included in APCC's message was the importance of adopting effective measures to reduce development potential outside of the town center. APCC stressed that early input from the community, including property owners and business owners, was an essential component of revitalization. APCC's intern helped coordinate a community charrette in August, where the public, property owners, business owners and other village center stakeholders were given the opportunity to provide input on possible revitalization efforts. Conceptual visualizations were created to demonstrate what could be possible under zoning improvements.

North Falmouth Village

The village of North Falmouth has witnessed the loss of moderately-priced housing and essential commercial services, often as a result of properties being converted to upscale condominiums. Alarmed by these changes, residents met with APCC and town officials to seek ways to preserve the character of their mixed-use community. Juliana prepared visual graphics to illustrate how the village could continue to change under existing zoning. She also provided residents with examples of alternative zoning options that could help preserve the village's character.



APCC Whitlock intern
Juliana Gamble

Salt Marsh Monitoring

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APCC wishes to acknowledge two individuals who greatly assisted the monitoring program in the past year.

Jesse Bermel, an AmeriCorps-Cape Cod member, was placed with APCC from October, 2004 to August, 2005. His energy, enthusiasm and thoughtfulness proved to be invaluable to APCC and the salt marsh program. His talents also earned him a new staff position with AmeriCorps as supervisor and project coordinator for their Bourne House volunteers.

Scott P. Donahue, resident of Mashpee and a junior from the University of Connecticut, joined APCC as the summer salt marsh intern from June to August. Scott's

tireless dedication and knowledge of salt marsh ecology were true assets to the salt marsh program. Scott left Cape Cod in early September for his next adventure, a semester in the Turks and Caicos Islands. He will return in December to continue his studies in Oceanography at UConn.



Jesse Bermel



Scott Donahue

A message from APCC's Development office: New programs enhance APCC's potential

The day after Labor Day is always considered the start of the "New Year" as far as APCC's Development Office is concerned. With summer behind us, autumn gives us a renewed outlook on where our organization is headed and how our budget is positioned to steer it in that direction.

We are delighted that this summer afforded us the chance to get out and meet some of our most loyal supporters, who generously upgraded their giving level and gave us useful feedback. However, there is still much to do, and so many more people to tell our story to.

We hope to continue to bring Executive Director Maggie Geist out to every single Cape Cod village to spread the message of conservation and preservation. Because of increased membership and a heightened awareness of the strong role APCC has played in the environmental and business communities, the organization has reached a new level of success.

Hosting an APCC event

To sustain its growth and prosperity, APCC will continue to ask its current members to "stretch" their level of giving, while at the same time garnering additional members. One new approach is to have a social event at the home of an APCC supporter, where new and old members can mingle over cocktails and hear Maggie Geist discuss progress we've made on current projects and efforts we are planning for the future.

If you would like to offer your home for this kind of informal event, we would be delighted to handle all the logistics. All you

need to do is invite those friends and acquaintances who you think would be interested in hearing APCC's message.

Remembering APCC in your gift-giving plans

Another way to help is by remembering APCC in your will, or by honoring a friend or relative by making a gift in that person's name. We would notify the family or the person that a gift was made in his/her honor.

Fine-tuning APCC's membership records

We also ask that you do two things to help us keep track of your membership and make communication easier:

- If you are a seasonal resident on Cape Cod, please let us know your off-Cape address, the date you move there, and when you plan to come back to the Cape.
- Send us your e-mail address so we can notify you about timely issues in your town or across the region that impact Cape Cod's environment. By providing us with this information, you are guaranteed a position at the forefront of environmental issues.

If you live on Cape Cod full time or part time, you have a stake in its future. Your membership dues and contributions allow us to be stewards of this land of sand and water 24/7. If those of us residing here don't pay attention to this fragile environment now, we will forfeit the opportunity for our children and grandchildren to share in the unique beauty that is Cape Cod.

For more information about any of the above, please contact APCC toll free at 1-877-955-4142 or at info@apcc.org.

"Your membership dues and contributions allow us to be stewards of this land of sand and water."

"Land of Sand and Water" radio series

Since its debut, APCC's "Land of Sand and Water" radio series has explored a broad spectrum of environmental themes related to Cape Cod's abundant natural resources, sensitive habitats and unique natural history. So far, over 100 one-minute radio spots have been produced and aired for the series.

"Land of Sand and Water" is now heard each weekday afternoon at about 4:40 PM on WMVY-FM (92.7), and every day around noon on WOMR-FM (92.1).

Previously-aired episodes of "Land of Sand and Water" can also be heard on APCC's Web site, www.apcc.org. New spots are added to the Web site as they air over the radio.



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 My check payable to APCC is enclosed.
 Please charge to my credit card: MasterCard Visa
 Credit Card # _____ Exp. _____
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APCC

Association to Preserve Cape Cod

P.O. Box 398, Barnstable, MA 02630
 Toll Free: 1-877-955-4142 (508) 362-4226
 info@apcc.org ■ www.apcc.org

As a non-profit organization, all contributions to APCC are tax deductible to the fullest extent of the law.

You can now join APCC online.
 It's quick and easy. Just visit our Web site at
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The Association to Preserve Cape Cod is a non-profit corporation founded in 1968
 "to foster policies and programs that promote the preservation of natural resources on Cape Cod."

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