PA Court Rules against State Fracking Law

Also,
Shoreline Development Ban Upheld

Court Rules on Native Villages’ Fishing and Hunting Rights
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The SandBar is a quarterly publication reporting on legal issues affecting the U.S. oceans and coasts. Its goal is to increase awareness and understanding of coastal problems and issues. To subscribe to The SandBar, contact: Barry Barnes at bdbarne1@olemiss.edu.

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Cover page photograph of Marcellus Shale gas well, courtesy of the Westminster Cable Network - WCN.

Contents page photograph of Marcellus Shale gas well, courtesy of the Westminster Cable Network - WCN.
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Pennsylvania is located on top of one of the largest energy resources in the world: Marcellus Shale. Recently, efforts to recover natural gas from the shale through hydraulic fracturing, also known as “fracking,” have increased due to new horizontal drilling techniques that allow access to previously unreachable areas. This increases the chance that fracking in the center of the state could cause pollution in the coastal region.

As drilling activity has increased, state and local governments have raced to keep pace with permitting and regulation. In February, Pennsylvania passed “Act 13,” which sought to regulate the harvest of natural gas and preempt local zoning regulations. In response, several local governments in Pennsylvania filed suit objecting to the law, and, in July, a Pennsylvania court struck down two sections of the Act. ²

Background
Natural gas is an attractive alternative to other energy sources because it produces less carbon dioxide and sulfur dioxide than oil and coal. In fact, some processes emit less than half the carbon dioxide of coal. Despite having lower carbon emissions than oil and coal, fracking is controversial because each well drilled requires millions of gallons of water and produces hazardous wastewater.

Fracking uses horizontal drilling to create a well, then pumps a combination of water, chemicals, and sand into the well causing cracks - or fractures - that allows natural gas to flow into the well. The water used in the well is extracted from streams, rivers, lakes, or groundwater. Initially, the removal of large amounts of water for fracking can inhibit other uses such as drinking and recreation. It can also negatively affect aquatic habitats and native species. The wastewater produced at the end of the fracking process can pose significant risks to human health and the environment. Wastewater can contain contaminants including dissolved solids, chemical additives, metals, and naturally occurring radioactive material.³

Because Pennsylvania is located over a large portion of Marcellus Shale, the Pennsylvania legislature passed Act 13 to regulate the harvesting of natural gas. Act 13 included language that preempted local zoning regulations to allow drilling of gas wells in areas zoned as residential. In July 2012, Robinson Township and other municipalities filed for a declaratory judgment in Pennsylvania’s court of appeals. The municipalities claimed that Act 13 was unconstitutional because it preempted local zoning ordinances and improperly delegated power to the Department of Environmental Protection (DEP).

Pennsylvania’s appellate court struck down portions of the Act related to zoning as unconstitutional because it allowed for incompatible uses. The court also ruled that Act 13 included an unconstitutional delegation of power to DEP because DEP was allowed to make policy judgments regarding setback waivers.

Pennsylvania’s appellate court struck down portions of the Act related to zoning as unconstitutional because it allowed for incompatible uses.

Preemption of Local Zoning
Pennsylvania’s Municipalities Planning Code (MPC) requires municipalities to create comprehensive zoning plans that include how areas should be used. According to the U.S. Supreme Court, the purpose of zoning is to “designate districts in which only compatible uses are allowed and incompatible uses are excluded.”⁴ By separating compatible and incompatible uses, residents and neighborhoods are protected from nuisances such as odor and noise.⁵
Section 3304 of Act 13 required municipalities to enact zoning ordinances that permit gas operations in all zoning districts. This requirement preempted any current zoning the municipalities had in place. The court determined that this requirement violated the municipalities’ comprehensive plans for zoning by allowing incompatible uses and reasoned that § 3304 did not protect property owners from harm, altered neighborhoods, and allowed irrational classifications. Thus, if § 3304 was not struck down, the legislature could also allow industries such as coal mines, steel mills, and chicken farms in residential areas.

Non-Delegation Doctrine
In addition to ruling that municipal zoning could not be preempted, the court also determined that the General Assembly improperly delegated legislative policy-making authority to DEP in § 3215(b) of the Act. However, the court stated that the legislature was left free to revise § 3215(b) to include more specific standards for issuing setback waivers.7

The Pennsylvania legislature is allowed to confer authority to an executive agency to execute legislation. This “legislation must contain adequate standards . . . [to guide] the delegated administrative functions.”8 Without adequate standards, executive agencies are forced to make policy decisions specifically reserved for the legislature in the Constitution.

While Pennsylvania’s General Assembly provided specific measurements for setbacks of oil and gas wells from waterways and drinking water systems in Act 13, the court found that the General Assembly did not include specific guidance for DEP to grant setback waivers. This lack of guidance left DEP with the choice of when to grant waivers, which is a policy decision. Because policy decisions are reserved for the legislature, granting DEP that power is an unconstitutional delegation of legislative authority to an executive agency that violates the non-delegation doctrine.

Effect on Water and Coastal Management
Zoning ordinances play an important role in land and water management, especially in high population centers and environmentally sensitive areas. Because natural gas wells are a water-intensive activity and produce potentially hazardous wastewater, natural gas wells risk contaminating local water resources and negatively impacting local and distant aquatic ecosystems. Contaminated wastewater discharge is a risk to both local and downstream communities. Though well sites will be restricted by zoning ordinances, the court’s decision in Robinson Township provides the legislature with the opportunity to revise its setback waiver requirements and allow DEP to grant waivers. If the legislature revises its waiver requirements, natural gas wells could be sited within 100 feet of lakes, rivers, drinking wells, or wetlands. If improperly managed, a wastewater leak could pollute local water systems.

In addition to lakes and rivers, natural gas wastewater could pollute the Delaware Estuary and Lake Erie. Both the Delaware Estuary and Lake Erie are designated as “coastal zones” under Pennsylvania’s Coastal Management Program. The Pennsylvania coastline includes 112 miles of shoreline along the Delaware Estuary and 77 miles along Lake Erie.9 Although most natural gas wells have been sited toward the center of the state, the court’s ruling leaves open the possibility for wells to be sited in coastal counties.

Conclusion
After the Robinson Township decision, two state officials immediately filed appeals. The decision to invalidate the enforcement of Act 13’s zoning requirements will remain in effect until the Pennsylvania Supreme Court rules on the case. At this time the Supreme Court is short one justice. If the court decides to rule on the case and there is no majority, the Court of Appeals’ decision will be upheld.9

Endnotes
1. 2014 J.D. Candidate, University of Oregon School of Law.
7. Id. at *22.
Several waterfront property owners initiated litigation after the City of Bainbridge Island, Washington enacted a development moratorium that prevented them from building piers and docks. The residents challenged the development moratorium first in state court. Although the state court held that the development moratorium violated the state constitution, it upheld permanent changes which the City had by then made to its land use laws prohibiting the construction of docks and piers. The residents then turned to federal court, seeking compensation for the loss of use of their property during the 31 months the moratorium was in effect.

The Ninth Circuit held in June 2012 that the City of Bainbridge Island did not infringe on its residents’ constitutional rights when it banned development along the shore of Blakely Harbor.²

**Background**

In 1996, the City adopted a Shoreline Management Program (SMP), a comprehensive use plan, in accordance with the Washington Shoreline Management Act. In 2000, the Washington Department of Ecology (Department) revised its statewide shoreline regulations. Local governments, including the City, were given two years to revise their own ordinances to comply with these new standards.

Beginning in August 2001, the City passed a series of ordinances which imposed a moratorium on development applications for new overwater structures (piers, docks, and floats) and new shoreline armoring.³ In 2002, the City extended the term of the moratorium to March 1, 2003; in March, the City extended it to September 1, 2003. The moratorium was extended again in August 2003 (until March 1, 2004) as the result of pending litigation.⁴
In early 2004, the City finalized its SMP, which the Department approved. The moratorium was terminated with the adoption of the SMP; however, the revised SMP permanently banned new dock construction in Blakely Harbor. During this time, the residents’ litigation continued in state court. The Washington Supreme Court eventually ruled that the original moratorium violated the state constitution. The Court, however, upheld the SMP’s permanent ban on construction along Blakely Harbor.

After losing their battle against the moratorium in state court, the residents turned to federal court arguing that the moratorium violated their substantive and procedural due process rights and seeking damages for those violations. The district court issued summary judgment for the City and dismissed the residents’ claims. The residents appealed to the 9th Circuit.

Due Process

On appeal, the residents argued that the city violated their substantive due process rights when it issued a moratorium banning development on Blakely Harbor, depriving them the use of their property. To prove a violation of substantive due process rights, the residents had to show that the regulation was “clearly arbitrary and unreasonable having no substantial relation to the public health, safety, morals, or general welfare.”

Although the residents agreed that the city had a legitimate interest in protecting wildlife and preserving the development status quo as it worked on updating the SMP, they claimed that the means by which the City’s chose to do so were arbitrary and unreasonable. First, the residents argued that the City should have used existing regulatory mechanisms, not a moratorium, to achieve their goals. The court disagreed, finding that the City’s “policy choice of a development moratorium seems not just nonarbitrary, but positively sensible.”

Additionally, the residents argued that the City didn’t really need all that time to revise its SMP and the moratorium extensions were therefore arbitrary. The court found the city’s actions during this time to be appropriate, because it was expecting applications for permits and it needed to keep these projects from going forward until it had completed the revisions to its land use plans.

The court also affirmed the U.S. district court’s ruling on the residents’ procedural due process claim. The residents argued that they were denied a proper hearing before they were denied a property interest. The court disagreed. The City of Bainbridge adopted the ordinances in question through its normal legislative process, which is designed to protect citizens’ due process rights. Nothing in the record suggested that the City Council deviated from this procedure or failed to provide adequate notice. The City, therefore, did not improperly deny the residents of their property interests without due process of law.

Conclusion

Because the city did not act arbitrarily while trying to pass its shoreline plan as called for by Department, the residents have no basis for relief. The residents of the City of Bainbridge Island will not be able to build docks and piers on their property. While the court did not rule in favor of the residents, it did appear sympathetic, stating:

It is surely vexing to the Samsons that they and their coplaintiffs successfully challenged the moratorium in state court, but received no damages for their efforts. And it must be more vexing still that they won the battle, but lost the war: the state courts struck down the temporary moratorium, but upheld the permanent ban on shoreline development. But the federal courts do not exist to satisfy litigants who are unhappy with what they received in state court. Nor do they exist to second-guess the manner in which city officials promote the public welfare.

Endnotes

1. 2014 J.D. Candidate, University of Mississippi School of Law.
2. Samson v. City of Bainbridge Island, 683 F.3d 1051 (9th Cir. 2012).
5. Samson, 683 F.3d at 1056.
7. Samson, 683 F.3d at 1058.
8. Id. at 1059.
9. Id.
The Alaskan Native Villages of Eyak, Tatitlek, Chenega, Nanwalek, and Port Graham (Villages) claim that for thousands of years, they have found their sustenance by hunting and fishing along the Outer Continental Shelf (OCS) in the Gulf of Alaska. When the fisheries in this area began to deplete, the National Marine Fisheries Services (NMFS) enacted regulations limiting the amount of sablefish and halibut that could be taken from the water by commercial, sport, and subsistence fishermen. The Villages brought suit against NMFS, claiming that they were entitled to aboriginal hunting and fishing rights because of their traditional use of portions of the OCS, and that NMFS was required to accommodate these rights in the regulations.

In determining whether native populations are entitled to aboriginal rights, no treaty or act of Congress needs to be consulted. Instead, these groups must prove “actual, exclusive, and continuous use and occupancy ‘for a long time’ of the claimed area.” The district court concluded that the Villages were not entitled to such rights because they did not sufficiently prove that their use and occupancy was exclusive. The Ninth Circuit reviewed the district court’s factual findings for the limited purpose of determining whether or not they were enough to support the Villages’ claim for aboriginal rights.

Continuous Use and Occupancy
In deciding whether native populations meet the “continuous use and occupancy” requirement, courts measure the use according to their way of life. In this case, the villagers were marine hunters and fishermen, using the claimed portions of the OCS seasonally. The court determined this seasonal use was sufficient to satisfy the “continuous use and occupancy” requirement because such use was consistent with the seasonal nature of the way of life of marine hunters and fishermen.

Exclusivity
The court concluded that the Villages did not sufficiently prove that they exclusively used the claimed portions of the OCS. “Exclusivity is established when a tribe or a group shows that it used and occupied the land to the exclusion of other Indian groups.” To prove such dominant use, the Villages relied on evidence of random battles with other tribes, the fact that Russia had considered them to be a potential enemy, and the absence of any evidence that other tribes hunted and fished the area. Unfortunately, the Villages proof did not amount to “full dominion

Photograph of the the native village of Tatitlek courtesy of the U.S. Department of Agriculture.
and control over the area, such that it possesses the right to expel intruders, as well as the power to do so.\textsuperscript{5} The court determined that the factual findings of the district court indicated that the claimed area on the periphery of the Villages’ territory was hunted and fished by other tribes. Furthermore, the court determined that the tribes’ estimated population of 400 to 1,500 rendered them incapable of controlling such a large area, especially without more evidence of exclusive use and control.

\section*{The Court Determined that the Factual Findings of the District Court Indicated that the Claimed Area on the Periphery of the Villages’ Territory Was Hunted and Fished by Other Tribes.}

Lastly, the court noted that collective use of the entire claimed area by the entire group is a material factor in aboriginal rights claims. The court determined that the district court’s factual findings that the Villages used and occupied separate areas of land as well as fished and hunted in separate areas did not indicate any collective or common use of the whole group of the whole area. Consequently, the Ninth Circuit agreed with the district court that the Villages did not meet the exclusivity requirement and were not entitled to aboriginal fishing and hunting rights in certain parts of the OCS.

\section*{Dissent}

The dissent agreed with the majority that the Villages had to prove both continuous and exclusive use and occupancy of the claimed area, but disagreed with the majority’s conclusion that the Villages had not sufficiently proven the “exclusivity” requirement. The dissent first argued that other tribes’ potential use of the Villages’ peripheral territory was not enough to defeat their exclusivity claim for the rest of the claimed area that was within the territory. Also, the dissent claimed that the Villages only had to show their own use and occupancy of the land to establish exclusivity, not that they were capable of excluding other groups, unless there was specific evidence of other groups’ use. Because no specific evidence of any other tribes using the area claimed by the Villages, the dissent concluded that the Villages met the exclusivity requirement by showing they were the only group to use the area. As a result, the dissent would have held that the Villages did establish aboriginal rights in at least parts of the claimed area, and that the case should have been remanded to the district court to determine exactly where within the claimed area the Villages had these rights. \textsuperscript{5}

\section*{Endnotes}

1. 2013 J.D. Candidate, University of Mississippi School of Law.
2. Native Village of Eyak v. Blank, 688 F.3d 619, 621 (9th Cir. 2012)
3. \textit{Id.} at 622.
4. \textit{Id.} at 623.
5. \textit{Id.}

Photograph of Lake Eyak courtesy of David McGee.
The majesty of SeaWorld’s star attraction, killer whales, shines dimmer after the Occupational Safety and Health Review Commission (OSHRC) ruled against the theme park following the death of trainer Dawn Brancheau. For decades, SeaWorld has entertained patrons with aquatic wonders highlighted by trainers and whales performing acrobatic feats together. In June 2012, OSHRC fined SeaWorld $7,000 for failing to protect trainers from the potentially dangerous whales. The fine represents a movement towards less human interaction with exotic animals and a SeaWorld without trainers and whales swimming together in front of crowds.

Background
Becoming a SeaWorld whale trainer is a rigorous process. Those lucky enough to obtain the job undergo scrutiny for years before they work in close proximity to whales. Once approved, trainers work with whales both in water and outside of water. In addition to teaching tricks and doing performances, trainers also assist in feeding and veterinary checkups. The type of work a trainer does generally falls into two categories: “waterwork” and “drywork.” “Waterwork” is a term used to describe swimming fully submerged with the whale. “Drywork” is when the trainer is working in knee-deep water or on dry land.

Similarly, killer whales undergo extensive training before they are ready to perform in front of an audience. Trainers use operant conditioning to positively reinforce good behavior and make it a more frequent occurrence. Then, trainers desensitize whales to their presence in the water to make swimming with humans feel natural to the animal. If a whale is ever showing signs of aggression, trainers slap the water and hit food buckets in an attempt to distract whales.

During a “Dine with Shamu” performance in 2009, Tilikum, a killer whale nearly twice the size of SeaWorld’s average whale, grabbed Brancheau while she was performing drywork on a shallow platform and drowned her. Her death prompted the Occupational Safety and Health Administration (OSHA) to investigate SeaWorld’s safety standards. The investigator found two instances where SeaWorld “will[fully] violat[ed] the general duty clause, [established by the] Occupational Safety and Health Act of 1970, for exposing animal trainers to struck-by and drowning hazards when working with killer whales during performances.” The first instance referred to SeaWorld exposing trainers to hazards when performing drywork acts with Tilikum. The second instance referred to SeaWorld exposing trainers to hazards when “engaging in waterwork and drywork during performances with all other killer whales kept at SeaWorld.” The amusement park contested these citations, and an administrative law judge for the OSHRC issued an opinion.
Court’s Determination and Rationale
The investigator issuing the citations for the violations had to prove four elements to support her claim that SeaWorld violated its duty to employees: “(1) a condition or activity in the workplace presented a hazard; (2) the employer or its industry recognized the hazard; (3) the hazard was likely to cause death or serious physical harm; and (4) a feasible means existed to eliminate or materially reduce the hazard.” The judge found that the first and third elements were met when Bracheau died during a drywork performance. Next, the judge focused on whether killer whales are a “hazard” and whether the risk of harm caused by killer whales could be reduced by reasonable means.


In determining whether whales are hazardous, the court looked at previous deaths that involved killer whales, SeaWorld’s training manuals and safety lectures, and employee incident reports. The court decided that Tilikum was a recognized hazard because of his role in the death of another trainer in 1991 and because SeaWorld had a whole section of their training manual dedicated to Tilikum safety protocol. With such overwhelming evidence against Tilikum, SeaWorld’s main contention was with the implication that all their other killer whales were a recognized hazard.

SeaWorld adamantly asserted that, though Tilikum was a recognized hazard, the other whales in their possession were not. They compared the violent whale attacks to that of an apartment complex manager encountering a violent tenant and claimed that their operant conditioning prevented nearly all unpredictable behavior. The court rejected these arguments as contradictory and relied on the employee incident reports to determine if SeaWorld knew of the dangers whales posed. The incident reports were revealing. Many trainers remarked on how employees have become “too comfortable” with their whales and their mistakes have led to increased “aggressive behavior.” Other trainers remarked on how techniques used to distract whales typically fail. All of these factors led the court to conclude that the operant conditioning that whales undergo does not adequately protect trainers from whales’ dangerous propensities.

The court also held that there were alternative safety measures that SeaWorld could have taken to protect trainers. A minimum distance requirement or a physical barrier between trainer and whale would reasonably alleviate the risk a whale poses to trainers.

The court did grant SeaWorld some leniency. Instead of holding that SeaWorld “willfully” violated the law, the court lowered the violation to “serious” and lessened the initial fine of $70,000 to $7,000. The court’s reason was that the OSHA Act did not put SeaWorld on notice of a specific provision preventing close contact with killer whales.

Conclusion
OSHRC limited their ruling in this case to performances and will allow trainers to swim with whales without crowds present but the days of seeing trainers surf on a whale’s back may very well be at an end. Since the violations, SeaWorld has required trainers to perform drywork from behind barriers and banned waterwork with its killer whales during performances. The incident reports reveal that trainers do not always feel safe when working closely with whales in front of screaming audiences. Hopefully, these new precautions will ease trainers’ fears and make them more comfortable at work. The OSHRC ruling makes great strides in effectively addressing trainers’ concerns by putting SeaWorld on notice of its duty to further protect employees.

Endnotes
1. 2014 J.D. candidate, University of Mississippi School of Law
3. Id. at 5.
4. Id.
5. Id. at 2.
6. Id.
7. Id. at 18.
8. Id. at 30-32.
9. Id.

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In March, the United States District Court for the District of Columbia struck down Amendment 4 of the Atlantic Herring Fishery Management Plan (FMP). The court ruled that it violated the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the Administrative Procedure Act (APA). The court deferred ruling on what remedial action should be taken to allow the parties time to reach an agreement. When the parties failed, the court issued an order calling for the National Marine Fisheries Service (NMFS) to review the New England Fisheries Management Council’s decision not to classify river herring as a non-target stock. It also ordered NMFS to set proper catch limits for Atlantic herring.

**Background**

In Amendment 4, the New England Fisheries Management Council provided Annual Catch Limits (ACLs) and Accountability Measures (AMs) for Atlantic herring. Several plaintiffs, a boat captain, a fisherman and an environmental group, filed suit arguing that the regional council violated the MSA and APA by not classifying river herring as a non-target stock and by providing inadequate ACLs and AMs for Atlantic herring. The court held that when approving this amendment, NMFS did not comply with the MSA and the APA and that the defendants did not try to minimize incidental catches.
Remedy
On the first claim, the plaintiffs argued that NMFS should step in and recommend to the regional council that river herring must be included in its FMP as a non-target stock. The defendants argued that the regional council should simply provide a better explanation as to why it did not include river herring in its FMP as a non-target stock.

The court found that whenever an agency makes an error in applying law, the court should simply ask the agency to reconsider its decision in light of the court’s findings of law. The court held that because NMFS made a decision requiring scientific expertise, i.e. whether or not to include herring as non-target stock, that it was not in the proper position to question the agency’s findings, much less try and substitute its own. Therefore, the court ordered NMFS to review the applicable law and advise the regional council as to the legality of any future actions that it takes concerning this amendment.

The second determination that the court had to make was whether or not it should grant relief for the regional council’s violation of National Standard 9, which requires regional councils to minimize incidental takes of non-target stocks to a practical extent when writing FMPs, or whether it should allow the regional council to continue working with the NMFS to draw up plans that would not violate this National Standard. The defendants argued that the court should remand the decision to the agency so that it can review the rule and bring it into compliance with the law. The court concluded that the council’s FMP must be sent back to the regional council to allow it to decide whether or not the ACLs are appropriate.

Conclusion
NMFS is required to review these regional fishery plans. This order requires that NMFS review the regional fishery’s management plan and inform the regional council of its legality. NMFS does not plan to challenge the court’s ruling.

Endnotes
1. J.D. Candidate 2014, Univ. of Mississippi School of Law.
NSGLC Grant Program Update

In 2011, the National Sea Grant Law Center awarded approximately $300,000 in competitive grants for one-year legal research and outreach projects addressing coastal and marine issues relevant to the National Sea Grant Program’s mission. The NSGLC funded eleven projects that addressed one or more of Sea Grant’s thematic areas: Safe and Sustainable Seafood Supply, Sustainable Coastal Development, Healthy Coastal Ecosystems, and Hazard Resilience in Coastal Communities. In our July issue, we featured several projects that have been completed this year. Below is a summary of several more grant projects that have been completed.

University of Hawaii Sea Grant College Program

Facing our Future: Adaptive Planning for Sea-level Rise in Maui and Hawaii Counties

Coastal hazards faced by local decision-makers, communities, and property owners include storm surge, flooding, tsunami inundation, and coastal erosion. These issues coupled with increasing development pressures make the task of managing the coast extremely challenging. This project aimed to improve shoreline planning for coastal hazards, including sea level rise, at the local level. The University of Hawaii Sea Grant Program established a partnership with the County of Maui and the County of Hawaii to develop recommendations for addressing existing and future hazards. The project resulted in a report with stand alone recommendations that could each be pursued individually by County decision-makers when reviewing and processing shoreline developments and activities. The recommendations include: 1) Encourage Setback Determination in Early Planning Stages; 2) Strengthen the Shoreline Setback Policy; 3) Clarify the Purpose and Applicability of Shoreline Rules; 4) Refine Criteria for Minor Structures and Activities; and 5) Review Permitting Process for Emergency Repairs to Seawalls.
**Department of Marine Affairs, University of Rhode Island**

*More Hazard Resilient Coastal Communities Sooner: Addressing Legal Issues Pertaining to the Expediting of Building Code Implementation*

Building codes are a critical tool for developing more hazard resilient communities. However, existing homeowners are only required to incorporate the safer standards if the owner chooses to replace part of the building and then only that part of building must be brought up to code. With this project, the Department of Marine Affairs at the University of Rhode Island examined how new ordinances could require owners to incorporate safer materials and techniques without relying on common triggering events, thereby increasing the pace at which the community becomes more resilient. The project also aimed to improve communities’ financing methods and enforcement tools to ensure that the existing law is implemented faithfully.

This study showed that building officials were failing to clearly recognize that increasingly stringent building codes were only increasing the resiliency of their town’s building stock at a very slow rate. This study developed multiple methods for local communities to create maps and GIS models that would help them to better understand the prevalence of nonconforming structures and the rate at which improvements in the building code were being incorporated into the existing building stock. The study also identified a number of reasons the pace of incorporation was not faster and made recommendations for addressing these problems. This study identified a number of mental models that were prevalent with building officials that inhibited their ability recognize the extent of the nonconforming and non compliance problems and the importance of these problems. These findings were conveyed to the Executive Director of the Rhode Island Emergency Management Agency and the Chair of the Flood Mitigation Association. Educational materials were produced for homeowners and town officials. The results of the study were presented to the coastal management community at two national conferences, and two articles written about the study are expected to appear in international journals.

**The Dickinson School of Law, Pennsylvania State University**

*Regulation of Dairy Facilities within Pennsylvania’s Chesapeake Bay Basin*

The Chesapeake Bay is the largest estuary in the United States. Due to elevated levels of nitrogen, phosphorus, and sediment, the Chesapeake Bay has failed to meet defined standards for water quality. There are numerous contributors to these pollutants in the Chesapeake Bay including sewage treatment plants, urban development, deposits from air pollution, and agricultural operations.

The goal of this project was to educate dairy and other agricultural professionals in Pennsylvania on the continuing development and current state of the legal framework for regulation of agricultural operations within the Chesapeake Bay Basin. The work product prepared in this project took many different forms so as to reach as many of the target audience as possible. Traditional presentations comprised an integral component of the overall educational program. Available technology was utilized to expand the reach of these live presentations as well as to disseminate information to a much wider audience. Using this technology, the reach of the project was expanded beyond the two hundred plus attendees to encompass more than four thousand individuals who received information directly from this project in some manner. A webpage containing links to nearly two hundred legal documents related to the restoration of the Chesapeake Bay was created and maintained as part of this project. The Chesapeake Bay Resource Area was created as a webpage on the Agricultural Law Resource and Reference Center’s website – www.law.psu.edu/aglaw. The Penn State Law Chesapeake Bay Blog – www.pennstatelawbayblog.com – was created through this project to disseminate information on legal developments related to the Chesapeake Bay.
Littoral Events

APIEL 2012

The APIEL conference brings together activists, public interest attorneys, scientists, law students, graduate students, funders and media from across the Appalachian region and surrounding states for a dynamic weekend. The conference features a series of workshops with the goal of exchanging information, sharing skills, and fostering collaboration between the grassroots, the bar, and future lawyers and policy-makers. Workshops address the region’s most pressing ecological problems, as well as the underlying laws, policies and institutional dynamics that have enabled these issues to occur.

For more information, visit:
http://tinyurl.com/2012apiel

9th Marine Law Symposium
Bristol, RI • Nov. 14-15, 2012

The Roger Williams University School of Law presents its 9th Marine Law Symposium, Shifting Seas: The Law’s Response to Changing Ocean Conditions. The symposium will examine the laws and policies that are implicated as climate change impacts coastal and ocean environments. Experts and legal practitioners from governmental bodies as well as private industry, academia and non-profit organizations will explore the state of the law, how disputes have been handled to date, and what may be on the horizon. Attendees can expect to walk away with the law and policy tools necessary to engage in these rapidly changing issues, and an understanding of the natural and social science behind changing coastal and ocean conditions.

For more information, visit:
http://tinyurl.com/marinelaw

World Aquaculture Society
Nashville, TN • Feb. 21-25, 2012

Aquaculture 2013 will combine the annual meetings of the Fish Culture Section of the American Fisheries Society, the World Aquaculture Society, and the National Shellfisheries Association. The conference will feature extensive technical program featuring special sessions, contributed papers and workshops on all of the species and issues facing aquaculturists around the country. Sample topics will include: open ocean aquaculture, aquaculture engineering, conservation and restoration, as well as law and policy issues.

For more information, visit:
http://tinyurl.com/worldaqua