



## **RHODE ISLAND BAYS, RIVERS, & WATERSHEDS COORDINATION TEAM**

Office of the BRWCT Chair  
Office of the Governor  
Room 430, RI DEM  
235 Promenade Street  
Providence, RI 02908  
[coordinationteam.ri.gov](http://coordinationteam.ri.gov)

### **Meeting of March 29, 2012**

**2:00-4:00 pm**

**Conference Room A**

**The RI Department of Environmental Management**

**235 Promenade Street**

**Providence, RI**

### DRAFT Minutes

#### Coordination Team Members in Attendance:

Kathy Crawley on behalf of Kenneth Burke  
Mike Walker on behalf of Keith Stokes  
Jared Rhodes on behalf of Kevin Flynn  
Jeff Willis on behalf of Grover Fugate  
Tom Uva on behalf of Ray Marshall  
Sue Kiernan on behalf of Janet Coit  
Guy Lefebvre

BRWCT Staff: Ames Colt, Melissa Deciantis

Guests: Paul Jordan RI DEM, Bill Patenaude RI DEM, Richard Ribb NBEP

#### **CT Administration**

*Meeting was called to order at 2:00 p.m.*

Meeting minutes for the February 1<sup>st</sup> meeting were approved unanimously, incorporating the amendments offered by Guy Lefebvre.

#### **Funding Proposal Review**

A Proposal to update the statewide GIS datalayer for impervious surface using 2011 orthophotography

Colt asked Paul Jordan, GIS coordinator for RI DEM, to summarize his proposal to fund an update of RI's statewide GIS data layer for impervious surface. (*The Impervious Surface GIS Data proposal is appended to these minutes.*)

The proposed work would update the statewide impervious cover GIS data layer using statewide 2011 orthophotography. The work would be conducted by Photoscience, Inc., who is also responsible for acquiring the 2011 orthophotography and the ongoing production of a high

resolution LiDAR elevation data set for Rhode Island. BRWCT funds could be directed to Photoscience through contractual agreements already negotiated by USGS and DEM. The project would require 3 months to complete. The project budget totals

Crawley noted that updated impervious surface assessments would help with water quantity and supply issues as well as stormwater management. The project would support assessment priorities laid out in the Water Resources Board's recently issued strategic plan, including developing better information on water availability and updating existing hydrographic models.

Kiernan stated that EPA and other states have developed water quality restoration plans (TMDL's) based upon impervious cover, which require high resolution data on impervious surface.

Rhodes noted that the RI Division of Planning has received a grant from federal Housing and Urban Development under the Sustainable Communities program. Updated impervious surface data would support RI Statewide Planning's new Sustainable Communities Program.

He recommended that the BRWCT funds not be allocated to the proposed project until Statewide Planning could determine whether Sustainable Communities Program funding could be provided for updating impervious surface data.

Lefebvre noted that RI has been pursuing watershed management since 1998, and updating impervious surface data was essential to this long-term effort. He asked that project proponents add data on surface waterflows to the GIS datalayer. Jordan promised to investigate that possibility.

Walker expressed concern that increased resolution of geographic data on impervious surface coverage could inadvertently encourage state and local decision-makers to inappropriately close off or restrict certain land areas from development. Walker noted that in his presentation Jordan had spoken of the importance of explaining to GIS data users that improving data resolution as proposed in the project would not provide the data precision and accuracy necessary to support municipal decisions such as stormwater utility assessments, LID stormwater policy requirements, and stormwater discharge permits.

Jordan noted that decisions about land and habitat conservation and protection are not based upon regulatory framework that prioritizes preserving all undeveloped land areas. Jordan strongly agreed that data users cannot apply existing GIS data layers to analyses or justifications they cannot support. The proposed updated impervious surface layer would not support 'parcel-by-parcel decision-making.

Jordan referred to the state's Natural Heritage Database as the key source of information on rare species habitats. He noted that it has been used in the past to support local zoning decisions, as well as local and state water quality decisions. Jordan noted how acquisitions of open space for wildlife conservation prioritize helping species of greatest conservation need regarding habitat preservation; protecting both rare species and rare habitats or ecosystem types.

Kiernan stated that RI's primary means for conserving open space conservation is acquisition. DEM and other state agencies do not have the regulatory authority to restrict development solely for the purpose species and habitat conservation. DEM has emphasized increased application of its Conservation Development strategy which promotes controlling the expansion of impervious surface.

Walker agreed with Jordan's and Kiernan's points and reiterated his concern that impervious surface data is susceptible to mis-use in local decision-making. Increasingly, the amelioration of surface water runoff through expanding implementation of stormwater best management practices must be factored into assessments of the impacts and management costs of impervious surfaces.

Uva noted the essential importance of updated impervious surface data for designing and promulgating municipal stormwater utility districts. Colt agreed that this data would be helpful to initial stormwater utility estimates, but that parcel scale data resolution would still be required by municipalities in order to implement a stormwater utility.

*Uva proposed a motion to approve funding for the project not to exceed \$24,400 if it is determined within the next three months that the Sustainable Communities Program would not be able to fund it.*

Uva stated his view that it is the purpose of the Team to coordinate their efforts and coordinate their funding. If this is something that will benefit statewide and it's a minor change to a project that is already going on then it's a great way to handle it.

Colt noted that deferring this funding decision would not hinder the current efforts of the BRWCT municipal stormwater support program (see below).

*Willis seconded the motion because the purpose of the Team is to fund projects collaboratively and to encourage coordinated funding of projects of shared priority.*

Walker asked about the consequences to the BRWCT FY 2012 budget of possibly not funding this project to FY 2013. Kiernan stated that funds from the BRWCT revenue account would still be available. Walker stated his support for the motion, but expressed a concern that the risk of losing access to the funds could be avoided altogether if the BRWCT agreed to fund the project in FY 2012.

Colt said that it looked as if about \$180-200,000 in BRWCT revenue funds would roll over to FY 2013 unless another agency came forward with another proposal in the coming weeks. Walker said that since the next BRWCT meeting was scheduled for May 2<sup>nd</sup>, it would be difficult to consider and fund another proposal in FY 2012.

*The BRWCT approved the motion to defer deciding on whether to fund the proposal until Statewide Planning could determine if the Sustainable Communities Program could fund that impervious surface data update using 2011 statewide orthophotography. Rhodes noted that such a determination could be made by Statewide Planning by mid-summer.*

#### Discussion of an initial proposal to conduct a statewide vulnerability assessment of Wastewater Treatment Infrastructure

Bill Patenaude of DEM's Office of Water Resources presented an initial proposal to fund a statewide vulnerability assessment of wastewater treatment infrastructure. This project would extend a current project led by RI Department of Health's Office of Drinking Water. The project would assess RI's nineteen major wastewater treatment facilities, possibly including the Narragansett Bay Commission's Combined Sewer Overflow Abatement Project, large pump stations in Providence, Cranston, Westerly, West Warwick, Warwick, Bristol, Narragansett and

South Kingstown; and Newport's combined sewer overflow facilities. The project is estimated to cost up to \$84,000. Patenaude noted that reductions to the estimated cost are possible if existing hydraulic modeling for the plants could be utilized. Such a statewide assessment of wastewater infrastructure climate change vulnerabilities and adaptation needs would be one of the first of its kind nationally.

Kiernan noted the need to investigate whether BRWCT funds could be used to extend an existing contract between RI Department of Health and the contractor TetraTech. tate and EPA is not how they usually do it, so they may need to discuss it.

Crawley commented on the flooding and sea-level rise as important risk drivers for wastewater infrastructure and water supply infrastructure. She noted that these existing infrastructures were engineered assuming average monthly rainfalls of about four inches for all months of the year. Increased precipitation variability due to climate change will have to be considered in renovating and rebuilding these infrastructures.

Rhodes asked Patenaude about the kinds of data already available for wastewater treatment facilities in terms of physical location, elevations, flood zones, etc. Patenaude answered that there such information is readily available in GIS format already. However, wastewater treatment facilities require more precise, facility-specific information on climate change risks and adaptation priorities. Kiernan noted the importance of tying together existing information for each of the state's nineteen major wastewater treatment systems.

*The BRWCT requested that the BRWCT Chair work with Mr. Patenaude to develop a full-fledged proposal on assessing statewide climate change vulnerabilities and adaptation of wastewater treatment facilities for consideration at its next meeting.*

#### Proposal to sponsor the "Water Words that Work Workshops"

Colt updated the BRWCT on developments regarding the efforts of the Coastal Training Program of the Narragansett Bay National Estuarine Research Reserve to convene two training workshops on strategic communications, the *Water Words that Work* model. The workshops were held on March 21-22, 2012, and were well-attended. Training materials were provided to workshop participants and are available from the Coastal Training Program. The workshop costs totaled \$3,700. The URI Coastal Institute and the Narragansett Bay Estuary Program sponsored the workshops at \$500 ea.

*Given the fact that the workshops were already held, the BRWCT chose to no longer consider the proposal to sponsor the workshops as discussed at its February 1, 2012, meeting.*

#### Improved guidelines and process for future proposal review by the BRWCT

*The BRWCT requested that the Chair provide additional guidance on how it should consider and make future funding decisions in relation to SLP Priorities, including a more formalized proposal submission and review process.*

## **Current Projects Update**

### Municipal Stormwater Management Support Project (DEM OWR)

Colt reviewed the BRWCT's project to provide stormwater management program support to municipalities in partnership with DEM's Office of Water Resources has been amended in response to recent developments. Westerly and Middletown were the two communities that the

BRWCT and DEM had been working with since mid-2011. However, the Westerly Town Council decided in March, 2012, to not proceed forward with a detailed analysis of its stormwater management needs and possible implementation of a Westerly stormwater utility. In contrast to Westerly, the Middletown Town Council formally recommended in March, 2012, that the Middletown Town Administrator and Director of Public Works continue

to work with the BRWCT and DEM to study the town's stormwater management needs and future costs, and develop recommendations and procedures for possibly establishing a stormwater utility district in Middletown.

Given that the focus of the project would now only be Middletown, DEM and Colt proposed that the \$40,000 previously allocated to this project be split into two parts: \$30,000 to hire a consultant to lead and conduct a stakeholder engagement and stormwater utility analysis with Middletown, building upon the initial analyses already conducted by DEM; and \$10,000 to conduct a detailed, legal analysis of the authorities granted to the municipalities by RI's stormwater utility enabling legislation, an analysis of value for all of RI's cities and towns.

The BRWCT could either issue the Request for Proposals to contract for the services to be provided to Middletown and fund the consulting agreement directly; or provide the funds to Middletown via a memorandum of agreement in order for Middletown to contract directly for the consulting support. The preferred funding process would be worked out with Middletown this spring.

Walker noted that a consultant was now going to be contracted with to work with one town, not two, 75% of the original municipal stormwater program support project budget. Colt replied that it was not certain at the time of the original BRWCT agreement to fund the project that both communities would agree to move into this second phase of the effort; there was also concern at that time that \$40,000 would be insufficient to provide adequate support for two municipalities to make substantial progress in the implementation of municipal stormwater utility districts.

*The BRWCT agreed to maintain its financial commitment to the program and requested that Colt provide it additional details on project work plan revisions at its next meeting.*

#### Large Marine Events Benefits Assessment Project (EDC)

The Large Benefits Assessment project is contracted with a Charles Colgan (University of Southern Maine) and Chuck Lawton (consultant) serving as project leads.

#### Coastal Hypoxia Research Program (URI)

The contractual agreement with URI has been signed. Work continues to provide a seasonal intern via DEM Office of Water Resources to assist Chris Deacutis in conducting the upper Narragansett bay dissolved oxygen field surveys for 2012.

#### Port Marketing Support Project (Governor's Office)

Colt reported that the to the Division of Planning's 2012 Challenge Grant Program decided not to fund BRWCT's proposal to conduct a short sea shipping assessment and marketing plan for RI's ports. The BRWCT had set aside \$20,000 for project match in anticipation that the Planning Challenge Grant would be provided. Port marketing and development continues to be a priority in RI. Legislation is pending in the RI General Assembly to create Port Marketing Collaborative.

The BRWCT has been asked by Abby Swienton of the Governor's Policy Staff to consider reserving the \$20,000 in previously allocated funds for possible use by a future RI Port Marketing Collaborative, if it is created during the 2012 legislative session.

#### **BRWCT FY 2012 Budget Update**

Colt distributed an update on BRWCT spending for FY 2012 and reviewed the following key points:

Septage fee revenues are ahead of estimates for the fiscal year, reaching \$411,000 in March 2012. Total annual revenues for FY 2012 could reach \$450,000, easily the highest annual amount reached since the fee was implemented in FY 2008.

- As of March 2012, the BRWCT has invested a total \$197,000 on discretionary and monitoring projects, including operations of the state stream gauge network, large river monitoring (also performed by USGS).
- The BRWCT has committed an additional \$167,000 for the large marine event benefit assessment project (EDC), the regional vent-less trap lobster monitoring project (DEM F&W), The Coastal Hypoxia Research Program (URI), and the Municipal Stormwater Management Support Project (DEM OWR). Because of these commitments, the present cash balance in the BRWCT revenue account will decrease substantially over the remainder of FY 2012.
- Rollover to FY 2013 is estimated to be \$160-180,000.

Finally, Colt reported that CRMC is meeting with AT&T to work out an agreement that will enable CRMC to promulgate the transatlantic submarine cable fee established by the General Assembly in 2007. Colt and Willis will update the BRWCT as to the status of these discussions over the spring and summer.

*Meeting adjourned at 4:00 p.m.*

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Office of Water Resources

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To: BRWCT member agencies  
A. B. Colt BRWCT Chair  
From: Paul Jordan, GIS Coordinator, RI DEM  
Date: March 27, 2012  
Re: Draft funding proposal to update the State's Impervious Surface GIS Datalayer utilizing  
2011 Orthophotography

Statewide Planning has a \$1.9 million dollar grant to develop a sustainable development plan for Rhode Island. DEM's Cathy Sparks, Scott Millar and I are looking at the flip side of that idea, i.e., those areas of important wildlife habitat that should not be developed. With US Fish and Wildlife funding we first acquired Summer 2010 and Spring 2011 aerial photography in true color and near infrared and are now proposing to move into phase two in which the raw data is used to identify the state's major ecological community types and tie those to our species of greatest conservation need (GCN) as documented in the State Wildlife Action Plan, currently in the process of being updated.

The process of mapping ecological communities, vegetation, and habitat types begins with first identifying all "impervious hardscapes", then working outward to map all development or human disturbance on the land and finally carving up what is left into the natural land-cover categories.

Additional funding to characterize impervious hard-scapes will leverage several hundred thousand dollars from RI Statewide Planning and US F&W State Wildlife Grant money to create a complete statewide update of impervious surface and land-use change, plus a never before done detailed look at natural land cover/ecological community types.

We provide here for the BRWCT an estimate of the costs to create an updated 2011 Impervious Cover data layer. Impervious cover is increasingly used in water quality studies to assess the impact of land use development and stormwater on receiving water quality. In fact, several states in the region have developed so called Impervious Cover TMDLs – since impervious cover is considered to be a good surrogate for water quality impacts associated with stormwater. Rhode Island has not developed any impervious cover TMDLs to date, though we have given consideration to the concept, and may opt to do so in the future.

Impervious cover spatial characterizations also serves as an important basis for establishing stormwater utility rates for individual properties as part of an overall effort to establish municipal stormwater utility districts as stormwater management financing mechanisms. It is essential to have updated impervious cover information as the basis of the feasibility study analysis. The BRWCT-funded intern, Kate England has spent considerable time analyzing aerial photography to obtain the updated impervious cover for Westerly and Middletown, and is currently working on updates for Cranston and Bristol. Going forward, it would be greatly beneficial if the 2011 impervious cover data layer was available for other municipalities to use should they be interested in conducting a stormwater utility feasibility study.

We request that consideration be given by the BRWCT to fund the work of updating the impervious cover analysis from the 2011 photography. The project would be conducted by PhotoScience, Inc., the same

vendor used to acquire the 2011 – 4 band ortho-photography and the soon to be delivered very high resolution LIDAR elevation data for RI. RIDEM is able to work directly with PhotoScience via delegated purchasing authority through USGS, within their pre-negotiated pricing Geospatial Services Contracts. The updated impervious surface map would require 3 months of processing by PhotoScience once the contract is in place.

The imaged maps provided below show the 2004 (aerial photo date) Planning Level Impervious Surface mapping created by Sanborn Mapping at the intended use scale of 1:4800 and at 1:1200 (over a 2011 photo). Comparison of the maps suggests that while the data are well suited for aggregating quantities or percentages of impervious surface over larger geographies (large lot development, 12 digit or smaller watersheds, etc) the same may not be true at the parcel level. At the larger scale obvious errors of omission (impervious areas not coded as such) and commission (pervious coded as impervious) are evident. Overall it's still good data, but it's questionable for use supporting a lot based or assessment level stormwater utility fee. PhotoScience has proposed a Statewide update to Planning Level accuracy for ~\$24,400. The cost of statewide Assessment Level data is ~\$307,000 or \$259 per square mile if we're only interested in covering portions of the state. For either of these options, USGS will tack on an additional 5% for contract management and quality control.

Our recommendation is to go forward with the Planning Level Impervious Surface mapping recognizing that communities actively seeking to implement a stormwater utility district will need to contract independently for the higher detail of the Assessment Level data.

We have made significant strides in identifying stormwater based water quality impairments with the existing data. An update alone, even without the improved accuracy, allows us to continue that work and for an “apples to apples” comparison identifying change in imperviousness over a 7 year period. Furthermore, this work will feed directly into Statewide Planning's efforts should they decide to go forward with a landuse/landcover update as part of their effort to create a Statewide Sustainable Development Plan.

