



## **RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION**

NO. PC4-14- 17

**TITLE:** To Adopt Proposed Amendments to the Comprehensive Management Plan (Application Requirements and Procedures; Letters of Interpretation; Pilot Program for Alternate Design Treatment Systems)

Commissioner Lloyd moves and Commissioner Ashmun seconds the motion that:

**WHEREAS**, the Executive Director prepared and submitted to the Commission proposed amendments to the Comprehensive Management Plan that revise the provisions of the Pilot Program for Alternate Design Wastewater Treatment Systems by removing the Cromaglass technology from the Pilot Program and extending the deadline for installation of the FAST technology and any USEPA ETV or NSF/ANSI Standard 245 technologies approved by the Commission for participation in the Pilot Program through August 5, 2018; and

**WHEREAS**, the Executive Director has also prepared and submitted to the Commission proposed amendments to the Comprehensive Management Plan that expand the list of activities for which no application to the Commission is required, extend the duration of Letters of Interpretation, codify existing policies and practices and correct minor typographical errors; and

**WHEREAS**, these amendments were identified by the Commission's Plan Review Committee as part of the Commission's fourth comprehensive review of the Comprehensive Management Plan, which began in June of 2012; and

**WHEREAS**, on December 13, 2013, the Pinelands Commission authorized the publication of these proposed amendments through adoption of Resolution PC4-13-46; and

**WHEREAS**, the proposed amendments were published in the February 18, 2014 issue of the New Jersey Register at 46 N.J.R. 319(a); and

**WHEREAS**, the Pinelands Commission held a public hearing to elicit public comment on the proposed amendments on March 26, 2014; and

**WHEREAS**, the Pinelands Commission also solicited written comment on the proposed amendments through April 19, 2014; and

**WHEREAS**, the Pinelands Commission received five written comments on the proposed amendments; and

**WHEREAS**, based upon further review of the proposed amendments and public comments, the Commission's Policy & Implementation Committee recommended at its May 30, 2014 meeting that the proposed Comprehensive Management Plan amendments be adopted without change; and

**WHEREAS**, the Pinelands Commission has reviewed the May 30, 2014 Notice of Adoption; and

**WHEREAS**, the Pinelands Commission desires to adopt the proposed amendments in accordance with the May 30, 2014 Notice of Adoption; and

**WHEREAS**, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission in adopting the Comprehensive Management Plan or amendments thereto shall have force or effect until thirty (30) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

**NOW, THEREFORE BE IT RESOLVED** that

1. The Pinelands Commission hereby adopts the proposed Comprehensive Management Plan amendments, as published in the February 18, 2014 New Jersey Register, and in accordance with the attached May 30, 2014 Notice of Adoption.
2. The Executive Director shall forward the amendments and minutes of this action to the Governor of the State of New Jersey, and shall also forward these amendments to the United States Secretary of the Interior for review in accordance with Section 502 of the National Parks and Recreation Act of 1978.
3. The amendments shall take effect as provided in the Pinelands Protection Act and upon publication in the New Jersey Register.

**Record of Commission Votes**

AYE NAY NP ABS				AYE NAY NP ABS				AYE NAY NP ABS						
Ashmun	X				Galletta			X		Prickett	X			
Avery	X				Jackson	X				Quinn			X	
Brown	X				Jannarone	X				Rohan Green			X	
DiBello	X				Lloyd	X				Witt			X	
Earlen			X		McGlinchey			X		Lohbauer	X			

Adopted at a meeting of the Pinelands Commission

Date: June 12, 2014

*Nancy Wittenberg*  
 Nancy Wittenberg  
 Executive Director

*Mark S. Lohbauer*  
 Mark S. Lohbauer  
 Chairman

May 30, 2014

**PINELANDS COMMISSION**

**Pinelands Comprehensive Management Plan**

**Definitions; Application Requirements and Procedures; Pinelands Development Credits;**

**Pilot Program for Alternate Design Wastewater Treatment Systems**

**Adopted Amendments: N.J.A.C. 7:50-2.11, 4.1, 4.2, 4.18, 4.19, 4.25, 4.35, 4.37, 4.52, 4.74, 4.76, 5.43, 6.68, 6.69, 10.21, 10.22, and 10.23**

Proposed: February 18, 2014 at 46 N.J.R. 319(a)

Adopted: June 12, 2014 by the New Jersey Pinelands Commission, Nancy Wittenberg, Executive Director

Filed: \_\_\_\_, 2014 **without change**

Authorized by: New Jersey Pinelands Commission

Authority: N.J.S.A. 13:18A-6j.

Effective Date: \_\_\_\_, 2014

Expiration Date: Exempt.

The New Jersey Pinelands Commission (Commission) is adopting amendments to Subchapters 2, Interpretations and Definitions; 4, Development Review; 5, Minimum Standards for Land Uses and Intensities; 6, Management Programs and Minimum Standards; and 10, Pilot Programs, of the Pinelands Comprehensive Management Plan (CMP). The amendments were proposed on February 18, 2014 at 46 N.J.R. 319(a). The adopted amendments relate to application requirements and procedures, the duration of Letters of Interpretation, the allocation of Pinelands Development Credits and the Pilot Program for Alternate Design Wastewater Treatment Systems. They are intended to codify current Commission practice, clarify existing

standards and requirements, increase the efficiency of the Commission and its staff, eliminate unnecessary application requirements, correct typographical errors in the regulations, provide an extended time period within which the installation of certain alternate design wastewater treatment systems will be permitted, and remove from the Alternate Design Wastewater Treatment Systems Pilot Program a particular technology that has been unable to demonstrate compliance with CMP standards.

In association with publication of the proposed amendments in the February 18, 2014 issue of the New Jersey Register, the Pinelands Commission transmitted the proposal to each Pinelands municipality and county, as well as to other interested parties, for review and comment. Additionally, the Pinelands Commission:

- Sent notice of the public hearing to all persons and organizations that subscribe to the Commission's public hearing registry;
- Sent notice of the public hearing and provided a copy of the rule proposal to all Pinelands counties and municipalities, the Pinelands Agricultural Advisory Committee, the health departments of all seven Pinelands counties, the alternate design wastewater treatment system vendors for technologies approved in the Pinelands Area and other interested parties;
- Placed advertisements of the public hearing in the four official newspapers of the Commission, as well as on the Commission's own web page;
- Submitted the proposed amendments to the Pinelands Municipal Council pursuant to N.J.S.A. 13:18A-7f;
- Distributed the proposed amendments to the news media maintaining a press office in the State House Complex; and
- Published a copy of the proposed amendments on its web page at [www.nj.gov/pinelands](http://www.nj.gov/pinelands).

**Summary of Hearing Officer Recommendations and Agency Response:**

A formal public hearing was held before the Commission staff on March 26, 2014. Two people attended the hearing; however, no oral testimony on the rule proposal was provided.

The public hearing was recorded on magnetic tape which is on file at the Commission's office at 15 Springfield Road, New Lisbon, New Jersey. The record of this rulemaking is available for inspection in accordance with applicable law by contacting:

Betsy Piner

Pinelands Commission

P.O. Box 359

New Lisbon, NJ 08064

The Commission received five written comments on the proposed amendments.

The hearing officer's recommendations are in accordance with the public comment and agency responses below.

**Summary of Public Comments and Agency Responses:**

The Commission accepted oral comments on the February 18, 2014 proposal at the above-discussed March 26, 2014 public hearing and written comments by regular mail, facsimile or e-mail through April 19, 2014.

The following individuals and organizations submitted comments:

1. Mark Demitroff
2. Bruce S. Shapiro, New Jersey Association of Realtors
3. Elizabeth George-Cheniara, Vice-President of Regulatory Affairs, New Jersey Builders Association
4. Christopher Schulz, Administrator, Medford Township

5. Peter Ferwerda

The Commission's detailed response to the comments is set forth below. The numbers in parentheses after each comment correspond to the list of commenters above.

1. COMMENT: Two commenters expressed general support for the proposed amendments and encouraged the Commission to move forward with adoption. (2, 3)

RESPONSE: The Commission appreciates the support of these commenters.

2. COMMENT: Two commenters supported the proposed application exemptions at N.J.A.C. 7:50-4.1(a) because they eliminate unnecessary application requirements and allow the Commission staff to appropriately focus its resources on reviewing more significant development proposals. (2, 3)

RESPONSE: The Commission agrees and appreciates the support of these commenters.

3. COMMENT: One commenter suggested several minor technical changes to proposed N.J.A.C. 7:50-4.1(a)8i and ii, the application exemption related to additions to non-residential uses and multi-family residential structures. (4)

RESPONSE: While appreciative of the detailed review undertaken by the commenter, the Commission does not believe any changes are necessary.

4. COMMENT: One commenter asked that the Notice of Proposal be revised to further emphasize that the exemption of certain home occupations from the Commission's application requirements (see N.J.A.C. 7:50-4.1(a)22) does not affect municipal application, review and approval procedures regarding home occupations. (4)

RESPONSE: The Notice of Proposal clearly states that the ability of a Pinelands municipality to regulate home occupations is in no way affected by exempting such development

from the need to file an application with the Commission. The Commission believes this statement is sufficient and no additional wording is necessary.

5. COMMENT: One commenter indicated support for the exemption of home occupations from the Commission's application requirements at N.J.A.C. 7:50-4.1(a)22 but noted that because the exemption would apply only if no additional development were proposed, a new parking lot or building would trigger the need for application. (4)

RESPONSE: The commenter is correct. If a new parking lot or building were proposed in association with the establishment of a home occupation, the submission of an application for development to the Commission could be required.

6. COMMENT: One commenter supported the proposed application exemption at N.J.A.C. 7:50-4.1(a)23 for changes of one nonresidential use to another but noted that the Commission may need to address changes of use involving a residential component. (3)

RESPONSE: The submission of applications for development to the Commission will continue to be required for changes of use involving an existing nonresidential use and a proposed residential use. The Commission believes this is appropriate, given the multitude of CMP standards that govern residential density and the potential need for use of Pinelands Development Credits.

7. COMMENT: One commenter suggested slight changes in wording to the amended submission requirements set forth at N.J.A.C. 7:50-4.18(e)4 and 4.35(e)4. Specifically, the commenter suggested that the term "municipal determination" should be used instead of "approval" or "denial". (4)

RESPONSE: Use of the terms "approval" and "denial" in these sections of the CMP was deliberate. In municipalities that have not had their master plans and land use ordinances

certified by the Commission as being in conformance with the CMP, notice of municipal development approvals and denials must be provided to the Commission in accordance with N.J.A.C. 7:50-4.18(e). In municipalities where such certification has occurred, it is only municipal development approvals that must be provided to the Commission, pursuant to N.J.A.C. 7:50-4.35(e). This important distinction would be lost if the term “determination” were to be used. Therefore, the Commission will not be making any further changes to these sections.

8. COMMENT: Two commenters supported the proposed amendments to N.J.A.C. 7:50-4.70, extending the duration of Letters of Interpretation from two to five years. These commenters felt the longer time period would be beneficial to both property owners and the Commission. (2, 3)

RESPONSE: The Commission agrees and appreciates the support of these commenters.

9. COMMENT: One commenter questioned whether there would be negative impacts to extending the duration of Letters of Interpretation and “locking up” Pinelands Development Credits for a longer period of time. (4)

RESPONSE: The Commission does not expect there to be any negative impacts. The majority of Letters of Interpretation issued by the Commission merely inform a property owner of the number of Pinelands Development Credits to which a particular property is entitled. Extending the duration of a Letter of Interpretation provides that property owner with a longer period of time within which to decide what, if anything, he or she wishes to do with the allocation information provided by the Commission. Issuance of a Letter of Interpretation does not create Pinelands Development Credits, add to the supply of Pinelands Development Credits or impose any obligation on the property owner. Changes in PDC allocations upon the renewal of a Letter of Interpretation are relatively infrequent and always insignificant. The Commission



does not anticipate this to change merely because Letters of Interpretation will now be valid for five years as opposed to two.

10. COMMENT: One commenter recommended that the resource extraction standards set forth at N.J.A.C. 7:50-6.68 be further amended to include a prohibition on the use of power vessels on waters of the State in the Pinelands Preservation Area. The commenter submits that such a prohibition was included in the Pinelands Protection Act but is not being appropriately enforced by the Commission. (5)

RESPONSE: The CMP already contains the prohibition referenced by the commenter (see N.J.A.C. 7:50-6.143(a)1). There is no need for it to be repeated in other sections of the CMP.

11. COMMENT: One commenter indicated support for the proposed extension of the Pilot Program for Alternate Design Wastewater Treatment Systems septic pilot program and the removal of the Cromaglass technology from the Pilot Program. The commenter also suggested that the Commission actively allow additional technologies into the Pilot Program as a means of increasing competition, thereby leading to cost-savings for users. (3)

RESPONSE: The Commission appreciates the commenter's expression of support. Five technologies are currently authorized for participation in the Pilot Program. Four of the five were approved for participation fairly recently and have yet to be installed in the Pinelands Area. After gaining some experience with the installation and performance of these four new technologies, the Commission will consider whether to seek participation by additional technologies, keeping in mind that N.J.A.C. 7:50-10.22(a)6xiii allows no more than six technologies to be approved for use in the Pilot Program at any one time.

12. COMMENT: One commenter stated that the Commission may need to consider potential environmental impacts if there is no requirement that existing Cromaglass systems be replaced with technologies that meet Pinelands water quality standards. (4)

RESPONSE: Only 60 Cromaglass systems were approved under the Pilot Program. From a regional standpoint, the Commission does not expect there to be any significant environmental impacts from such a small number of systems.

Notably, when the Commission established the Pilot Program for Alternate Design Wastewater Treatment Systems in 2002, one of the fundamental principles was that property owners would not be held liable for poor performance of their pilot program systems if the systems were being properly operated and maintained. N.J.A.C. 7:50-10.22(b) was incorporated in the pilot program rules to make this explicit. The intent of this section was to provide purchasers of pilot program systems with the assurance that they would not be required to pay for the replacement of a technology that failed to comply with nitrogen removal expectations. The inability of a particular technology to meet CMP water quality standards was a possibility the Commission acknowledged when the program was first established. That, in large part, was why testing or piloting of the new technologies was required prior to their authorization in the Pinelands Area on a permanent basis.

The 60 homeowners in the Pinelands Area currently using the Cromaglass technology have the option of continuing to use their systems in a manner consistent with the operation and maintenance provisions of the CMP, converting the systems to function as septic tanks, replacing the systems with conventional septic tanks meeting the requirements of N.J.A.C. 7:9A (the New Jersey Department of Environmental Protection's Standards for Individual Subsurface Sewage Disposal Systems) or replacing the systems with other nitrogen-reducing technologies authorized

by the CMP. This is consistent with New Jersey's long-established practice of not requiring the replacement or retrofitting of existing septic systems that were legally installed in compliance with the regulations in effect at the time of plan approval and system construction. Typically, the Department of Environmental Protection requires that such systems be upgraded only upon the occurrence of a system failure as defined at N.J.S.A. 7:9A, generally resulting in sewage on the ground, backing up into a building or contaminating a well with fecal coliform bacteria. Such conditions do not exist with the existing Cromaglass systems. Nevertheless, the Commission intends to identify potential funding sources that might be used to provide grants to homeowners interested in replacing their Cromaglass systems.

13. COMMENT: One commenter objected to the inclusion of the Smart Growth Development Impact analysis in the notice of proposal, as well as the general use of the term "smart growth" in a regulatory context. This commenter also stated that the Commission should not amend the CMP to comport with the State Development and Redevelopment Plan (State Plan). Rather, the State Plan should be amended to be consistent with the Pinelands CMP. In addition, this commenter stated that the Commission cannot force all Pinelands Villages to become "Centers (with redevelopment)" until the 1999 Memorandum of Agreement between the Commission and the State Planning Commission is revised. (1)

RESPONSE: The commenter's objections have nothing to do with the CMP amendments now being adopted. Rather, they relate to the Smart Growth Development Impact analysis included in the Notice of Proposal. Such an analysis is required pursuant to N.J.S.A. 52:14B-4, as amended in 2008. The Commission does not have the authority to omit this analysis from the proposal or rename it so that it does not include the term "smart growth".

The analysis must include a description of the types and an estimate of the number of housing units to which the proposed amendments will apply, a description of the estimated increase or decrease in the availability of affordable housing that will be affected by the proposed amendments, and a description as to whether the proposed amendments will affect in any manner new construction within Planning Areas 1 or 2, or within designated centers, under the State Plan. The Commission's analysis simply notes that such Planning Areas and State Plan designated centers do not exist in the Pinelands Area. Therefore, the Commission evaluated the impact of the proposed amendments on Pinelands management areas that are equivalent to Planning Areas 1 and 2 and designated centers (that is, Regional Growth Area, Pinelands Villages and Pinelands Towns). The Commission's 1999 Memorandum of Agreement with the State Planning Commission makes these correlations explicit, with all Pinelands Villages assigned a corresponding State Plan center designation of "Village" or "Hamlet".

As is evident from the text of the amendments themselves, the Commission is not amending the CMP to comport with the State Plan.



# RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION

NO. PC4-14- 18

**TITLE:** Approving With Conditions an Application for a Public Development (Application Number 2013-0149.001)

Commissioner Galletta moves and Commissioner Lloyd seconds the motion that:

WHEREAS, the Pinelands Commission has reviewed the Findings of Fact, Conclusion and the recommendation of the Executive Director that the following application for a Public Development be approved with conditions:

App. No. 2013-0149.001 Applicant: ATLANTIC COUNTY DIVISION OF FACILITIES

Municipality: Hamilton Township  
Management Area: Regional Growth  
Proposed Development: Construction of an 86 space paved parking area (Date of Report: May 21, 2014).

WHEREAS, no request for a hearing before the Office of Administrative Law concerning the Executive Director's recommendation has been received; and

WHEREAS, the Pinelands Commission hereby adopts the Findings of Fact and Conclusion of the Executive Director; and

WHEREAS, pursuant to N.J.S.A. 13A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period and Governor shall approve same, in which case the action shall become effective upon such approval; and

WHEREAS, the Pinelands Commission hereby determines that the proposed public development conforms to the standards for approving an application for Public Development set forth in N.J.A.C. 7:50-4.57 if the conditions recommended by the Executive Director are imposed.

NOW, THEREFORE BE IT RESOLVED that the following application for Public Development is hereby approved subject to the conditions recommended by the Executive Director.

App. No. 2013-0149.001 Applicant: ATLANTIC COUNTY DIVISION OF FACILITIES

Municipality: Hamilton Township  
Management Area: Regional Growth  
Proposed Development: Construction of an 86 space paved parking area (Date of Report: May 21, 2014).

### Record of Commission Votes

AYE NAY NP ABS				AYE NAY NP ABS				AYE NAY NP ABS			
Ashmun	X			Galletta	X			Prickett	X		
Avery	X			Jackson	X			Quinn			X
Brown	X			Jannarone	X			Rohan Green			X
DiBello	X			Lloyd	X			Witt			X
Earlen			X	McGlinchey			X	Lohbauer	X		

Adopted at a meeting of the Pinelands Commission

Date: June 12, 2014

Nancy L. Wittenberg  
Nancy Wittenberg  
Executive Director

Mark S. Lohbauer  
Mark S. Lohbauer  
Chairman



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 THE PINELANDS COMMISSION  
 PO Box 359  
 NEW LISBON, NJ 08064  
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Chris Christie  
 Governor  
 Kim Guadagno  
 Lt. Governor

General Information: Info@njpinelands.state.nj.us  
 Application Specific Information: AppInfo@njpinelands.state.nj.us

Mark S. Lohbauer  
 Chairman  
 Nancy Wittenberg  
 Executive Director

May 21, 2014

Robert Reynolds  
 Atlantic County Division of Facilities  
 P.O. Box 1107  
 Atlantic City, NJ 08401

Re: Application # 2013-0149.001  
 Block 994.02, Lot 1  
 Hamilton Township

Dear Mr. Reynolds:

The Commission staff has completed its review of this application for the construction of an 86 space paved parking area. Enclosed is a copy of a Public Development Application Report. On behalf of the Commission's Executive Director, I am recommending that the Pinelands Commission approve the application with conditions at its June 12, 2014 meeting.

Any interested party may appeal this recommendation in accordance with the appeal procedure attached to this document. If no appeal is received, the Pinelands Commission may either approve the recommendation of the Executive Director or refer the application to the New Jersey Office of Administrative Law for a hearing.

Prior to any development, the applicant shall obtain any other necessary permits and approvals.

Sincerely,

Charles M. Horner, P.P.  
 Director of Regulatory Programs

Enc: Appeal Procedure

c: Secretary, Hamilton Township Planning Board (via email)  
 Hamilton Township Construction Code Official (via email)  
 Hamilton Township Environmental Commission (via email)  
 Atlantic County Department of Regional Planning and Development (via email)  
 Craig Hurless





State of New Jersey  
 THE PINELANDS COMMISSION  
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Chris Christie  
 Governor

Kim Guadagno  
 Lt. Governor

General Information: Info@njpines.state.nj.us  
 Application Specific Information: AppInfo@njpines.state.nj.us

Mark S. Lohbauer  
 Chairman

Nancy Wittenberg  
 Executive Director

**PUBLIC DEVELOPMENT APPLICATION REPORT**

May 21, 2014

Robert Reynolds  
 Atlantic County Division of Facilities  
 P.O. Box 1107  
 Atlantic City, NJ 08401

Application No.: 2013-0149.001

Location: Block 994.02, Lot 1  
 Hamilton Township

This application proposes the construction of an 86 space paved parking area on the above referenced 2.63 acre lot in Hamilton Township. The proposed development will serve the Atlantic County Criminal Court Facility located on another parcel, immediately adjacent to the proposed parking area.

**STANDARDS**

The Commission staff has reviewed the proposed development for consistency with all standards of the Pinelands Comprehensive Management Plan (CMP). The following reviews the CMP standards that are relevant to this application:

Land Use (N.J.A.C. 7:50-5.28(a))

The proposed development is located in a Pinelands Regional Growth Area. The proposed development is a permitted land use in a Pinelands Regional Growth Area.

Vegetation Management Standards (N.J.A.C. 7:50-6.23 & 6.26)

The proposed development will be located within an oak-pine forested area. The proposed clearing and soil disturbance is limited to that which is necessary to accommodate the proposed development.

The Landscaping and Revegetation guidelines of the CMP recommend the use of grasses that are tolerant of droughty, nutrient poor conditions. To stabilize disturbed areas, the applicant proposes to utilize a seed mixture which meets that recommendation.

Threatened and Endangered Species Standards (N.J.A.C. 7:50-6.27 & 6.33)

Information available to the Commission staff indicated the potential presence of Barred owl in the vicinity of the proposed development. The applicant completed a habitat assessment and visual nest survey on and in the immediate vicinity of the proposed development for Barred owl. The habitat assessment determined that the concerned area did not contain critical habitat for Barred owl. No nests or potential nests were identified by the visual survey. The applicant has demonstrated that the proposed development will not have an irreversible adverse impact on habitat that is critical to the survival of Barred owl.

Stormwater Management Standards (N.J.A.C.7:50-6.84(a)6)

The applicant has demonstrated that the proposed development is consistent with the CMP stormwater management standards. To meet the stormwater management standards, the applicant will be constructing a stormwater infiltration basin.

The stormwater management plan proposes a conservation restriction on 1.34 forested acres of the lot to meet the CMP nonstructural stormwater management standard.

**PUBLIC COMMENT**

This applicant has provided the requisite public notices. Public notice to required land owners within 200 feet of the above referenced lot was completed on March 7, 2014. Newspaper public notice was completed on March 10, 2014. The application was designated as complete on the Commission's website on April 11, 2014. The Commission's public comment period closed on May 9, 2014. No public comment was submitted to the Commission regarding this application.

**CONDITIONS**

1. Except as modified by the below conditions, the proposed development shall adhere to the plan, consisting of six sheets, prepared by Polistina Associates and dated as follows:  
  
Cover sheet and Sheets 2, 5 & 6 - September 26, 2013  
Sheets 3 & 4 - September 26, 2013; revised to February 21, 2014
2. Except as modified by the below conditions, the proposed development shall adhere to the plan prepared by Polistina Associates, dated February 21, 2014 and revised to May 13, 2014.
3. Disposal of any construction debris or excess fill may only occur at an appropriately licensed facility.
4. Any proposed revegetation shall adhere to the "Vegetation" standards of the CMP. Where appropriate, the applicant is encouraged to utilize the following Pinelands native grasses for revegetation: Switch grass, Little bluestem and Broom-sedge.
5. Prior to any development, the applicant shall obtain any other necessary permits and approvals.



6. Prior to any development, the applicant must provide documentation that the concerned 1.34 acres, proposed to be subject of a conservation restriction to meet the CMP nonstructural stormwater management standard, has been filed with the Atlantic County Clerk's office.

### CONCLUSION

As the proposed development conforms to the standards set forth in N.J.A.C. 7:50-4.57, it is recommended that the Pinelands Commission **APPROVE** the proposed development subject to the above conditions.



Chris Christie  
Governor

Kim Guadagno  
Lt. Governor

## State of New Jersey

THE PINELANDS COMMISSION

PO Box 359

NEW LISBON, NJ 08064

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www.nj.gov/pinelands

General Information: [Info@njpines.state.nj.us](mailto:Info@njpines.state.nj.us)  
Application Specific Information: [AppInfo@njpines.state.nj.us](mailto:AppInfo@njpines.state.nj.us)



Mark S. Lohbauer  
Chairman

Nancy Wittenberg  
Executive Director

### PINELANDS COMMISSION APPEAL PROCEDURE

The Pinelands Comprehensive Management Plan (N.J.A.C. 7:50-4.91) provides an interested party the right to appeal any determination made the by Executive Director to the Commission in accordance with N.J.A.C. 7:50-4.91. An interested party is someone who has a specific property interest sufficient to require a hearing on constitutional or statutory grounds. Only appeal requests submitted by someone meeting the definition of an interested party will be transmitted to the New Jersey Office of Administrative Law for a hearing. Any such appeal must be made in writing to the Commission within eighteen days of the date of the Executive Director's determination and must include the following information:

1. the name and address of the person requesting the appeal;
2. the application number;
3. the date on which the determination to be appealed was made;
4. a brief statement of the basis for the appeal; and
5. a certificate of service (a notarized statement) indicating that service of the notice has been made, by certified mail, on the clerk of the county, municipal planning board and environmental commission with jurisdiction over the property which is subject of this decision.

Within 15 days following receipt of a notice of valid appeal, the Executive Director shall initiate the procedures for assignment of an Administrative Law Judge to preside at the hearing pursuant to the Administrative Procedures Act, N.J.S.A. 52:14B-1 et seq., and the procedures established by the Office of Administrative Law. The time, date and location of such hearing shall be designated by the Office of Administrative Law.



## **RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION**

NO. PC4-14- 19

**TITLE:** Issuing an Order to Certify the November 2013 Amendment to the Master Plan of Egg Harbor Township and Ordinance 44-2013, Amending Chapter 225 (Zoning) of the Code of Egg Harbor Township

Commissioner Shuman moves and Commissioner Jackson seconds the motion that:

**WHEREAS**, on October 1, 1993, the Pinelands Commission fully certified the Master Plan and Land Use Ordinances of Egg Harbor Township; and

**WHEREAS**, Resolution #PC4-93-139 of the Pinelands Commission specified that any amendment to the Township's certified Master Plan and codified Land Use Ordinances be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 (Submission and Review of Amendments to Certified Master Plans and Land Use Ordinances) of the Comprehensive Management Plan to determine if said amendment raises a substantial issue with respect to conformance with the Pinelands Comprehensive Management Plan; and

**WHEREAS**, Resolution #PC4-93-139 further specified that any such amendment shall only become effective as provided in N.J.A.C. 7:50-3.45 of the Comprehensive Management Plan; and

**WHEREAS**, on November 18, 2013, the Egg Harbor Township Planning Board adopted an amendment to the municipality's 2002 Master Plan; and

**WHEREAS**, the November 2013 Master Plan amendment, adopted in response to a Superior Court decision necessitating clarification of the municipality's nonresidential zones, categorizes all nonresidential zones as either business, commercial or industrial, recommends adoption of sign standards specific to each type of nonresidential zone and recommends adoption of a provision allowing more than one principal use per lot outside the Pinelands Area; and

**WHEREAS**, the Pinelands Commission received an adopted copy of the 2013 Master Plan amendment, together with a copy of the Planning Board's resolution of adoption, on November 27, 2013; and

**WHEREAS**, on December 18, 2013, Egg Harbor Township adopted Ordinance 44-2013, amending Chapter 225 (Zoning) of the Township's Code for purposes of implementing the recommendations of the above-referenced 2013 Master Plan amendment; and

**WHEREAS**, Ordinance 44-2013 includes revised standards for billboards as a principal use in three zoning districts within the Pinelands Regional Growth Area, including standards for digital or LED billboards; and

**WHEREAS**, the Pinelands Commission received a certified copy of Ordinance 44-2013 on December 23, 2013; and

**WHEREAS**, by letter dated February 10, 2014, the Executive Director notified the Township that the 2013 Master Plan amendment and Ordinance 44-2013 would require formal review and approval by the Pinelands Commission; and

**WHEREAS**, a public hearing to receive testimony on the 2013 Master Plan amendment and Ordinance 44-2013 was duly advertised and noticed and scheduled to be held on March 3, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

**WHEREAS**, due to inclement weather and the closure of all State offices on March 3, 2014, the public hearing had to be canceled and rescheduled; and

**WHEREAS**, a public hearing to receive testimony on the 2013 Master Plan amendment and Ordinance 44-2013 was duly advertised, noticed and held on March 26, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

**WHEREAS**, the Executive Director has found that the 2013 Master Plan amendment and Ordinance 44-2013 are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan; and

**WHEREAS**, the Executive Director has submitted a report to the Commission recommending issuance of an order to certify that the 2013 Amendment to the Master Plan of Egg Harbor Township and Ordinance 44-2013, amending Chapter 225 (Zoning) of the Code of Egg Harbor, are in conformance with the Pinelands Comprehensive Management Plan; and

**WHEREAS**, the Commission's CMP Policy and Implementation Committee has reviewed the Executive Director's report and has recommended that the 2013 Master Plan amendment and Ordinance 44-2013 be certified; and

**WHEREAS**, the Pinelands Commission has duly considered all public testimony submitted to the Commission concerning the 2013 Master Plan amendment and Ordinance 44-2013 and has reviewed the Executive Director's report; and

**WHEREAS**, the Pinelands Commission accepts the recommendation of the Executive Director; and

**WHEREAS**, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

**NOW, THEREFORE BE IT RESOLVED** that

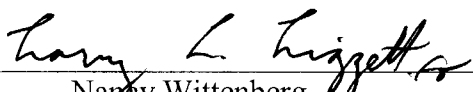
1. An Order is hereby issued to certify that the 2013 Amendment to the Master Plan of Egg Harbor Township and Ordinance 44-2013, amending Chapter 225 (Zoning) of the Code of Egg Harbor, are in conformance with the Pinelands Comprehensive Management Plan.
2. Any additional amendments to Egg Harbor Township's certified Master Plan and Land Use Ordinances shall be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 to determine if said amendments raise a substantial issue with respect to the Comprehensive Management Plan. Any such amendment shall become effective only as provided in N.J.A.C. 7:50-3.45.

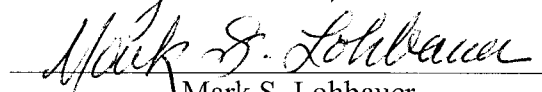
**Record of Commission Votes**

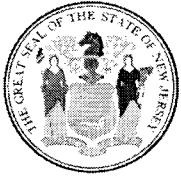
AYE NAY NP ABS				AYE NAY NP ABS				AYE NAY NP ABS				
Ashmun	<input checked="" type="checkbox"/>			Galletta	<input checked="" type="checkbox"/>			Prickett	<input checked="" type="checkbox"/>			
Avery	<input checked="" type="checkbox"/>			Jackson	<input checked="" type="checkbox"/>			Quinn			<input checked="" type="checkbox"/>	
Brown	<input checked="" type="checkbox"/>			Jannarone	<input checked="" type="checkbox"/>			Rohan Green			<input checked="" type="checkbox"/>	
DiBello	<input checked="" type="checkbox"/>			Lloyd	<input checked="" type="checkbox"/>			Witt			<input checked="" type="checkbox"/>	
Earlen			<input checked="" type="checkbox"/>	McGlinchey			<input checked="" type="checkbox"/>	Lohbauer	<input checked="" type="checkbox"/>			

Adopted at a meeting of the Pinelands Commission

Date: June 12, 2014

  
 Nancy Wittenberg  
 Executive Director

  
 Mark S. Lohbauer  
 Chairman



State of New Jersey  
THE PINELANDS COMMISSION  
PO Box 359  
NEW LISBON, NJ 08064  
(609) 894 7300  
www.nj.gov/pinelands



Chris Christie  
Governor

Kim Guadagno  
Lt. Governor

General Information: [Info@npjines.state.nj.us](mailto:Info@npjines.state.nj.us)  
Application Specific Information: [AppInfo@npjines.state.nj.us](mailto:AppInfo@npjines.state.nj.us)

Mark S. Lohbauer  
Chairman

Nancy Wittenberg  
Executive Director

**REPORT ON THE NOVEMBER 2013 AMENDMENT TO THE MASTER PLAN OF  
EGG HARBOR TOWNSHIP AND ORDINANCE 44-2013, AMENDING  
CHAPTER 225 (ZONING) OF THE CODE OF EGG HARBOR TOWNSHIP**

May 30, 2014

Egg Harbor Township  
3515 Bargaintown Road  
Egg Harbor Township, NJ 08234

**FINDINGS OF FACT**

I. Background

The Township of Egg Harbor is located in the southeastern Pinelands in Atlantic County. Pinelands municipalities adjacent to Egg Harbor Township include the Townships of Galloway and Hamilton and Estell Manor City in Atlantic County, as well as Upper Township in Cape May County.

On October 1, 1993, the Pinelands Commission fully certified the Master Plan and Land Use Ordinances of Egg Harbor Township.

On November 18, 2013, the Egg Harbor Township Planning Board adopted an amendment to the municipality's 2002 Master Plan. The November 2013 Master Plan amendment was adopted in response to a Superior Court decision necessitating clarification of the municipality's nonresidential zones. The master plan amendment categorizes all nonresidential zones as either business, commercial or industrial, recommends adoption of sign standards specific to each type of nonresidential zone and recommends adoption of a provision allowing more than one principal use per lot outside the Pinelands Area. The Pinelands Commission received an adopted copy of the 2013 Master Plan amendment, together with a copy of the Planning Board's resolution of adoption, on November 27, 2013.

On December 18, 2013, Egg Harbor Township adopted Ordinance 44-2013, amending Chapter 225 (Zoning) of the Township's Code for purposes of implementing the recommendations of the above-referenced 2013 Master Plan amendment. Ordinance 44-2013 also includes revised standards for billboards as a principal use in three zoning districts within the Pinelands Regional Growth Area, including standards for digital or LED billboards. The Pinelands Commission received a certified copy of Ordinance 44-2013 on December 23, 2013.

By letter dated February 10, 2014, the Executive Director notified the Township that the 2013 Master Plan amendment and Ordinance 44-2013 would require formal review and approval by the Pinelands Commission.

## II. Master Plans and Land Use Ordinances

The following documents have been submitted to the Pinelands Commission for certification:

- \* An Amendment to the 2002 Master Plan of Egg Harbor Township, adopted by the Planning Board on November 18, 2013; and
- \* Ordinance 44-2013, amending Chapter 225 (Zoning) of the Code of Egg Harbor Township, introduced on November 26, 2013 and adopted on December 18, 2013.

These amendments have been reviewed to determine whether they conform with the standards for certification of municipal master plans and land use ordinances as set out in N.J.A.C. 7:50 3.39 of the Pinelands Comprehensive Management Plan. The findings from this review are presented below. The numbers used to designate the respective items correspond to the numbers used to identify the standards in N.J.A.C. 7:50 3.39.

### 1. **Natural Resource Inventory**

Not applicable.

### 2. **Required Provisions of Land Use Ordinance Relating to Development Standards**

In November 2013, the Egg Harbor Township Planning Board adopted an amendment to the Township's 2002 Master Plan in response to a Superior Court decision necessitating clarification of the municipality's nonresidential zones. The November 2013 Master Plan amendment categorizes all nonresidential zones as either business, commercial or industrial and recommends adoption of sign standards specific to each type of nonresidential zone. In addition, the Master Plan amendment recommends the adoption of a provision allowing more than one principal use per lot outside the Pinelands Area.

Ordinance 44-2013 amends Chapter 225 (Zoning) of the Code of Egg Harbor Township by implementing the recommendations of the above-described Master Plan amendment. Section 225-4 is amended to clearly characterize all of the municipality's zoning districts as residential, business, commercial or industrial. Section 225-13 is amended to expressly allow for multiple principal uses on the same lot in commercial and industrial zones located outside the Pinelands Area. In addition, the sign standards in Section 225-63 are amended to clarify the types of accessory on-site signs that are permitted in business, commercial and industrial zones. These accessory signs include changeable message signs, provided each message is fixed for at least 10 seconds before changing to the next message.

The amended sign standards adopted by Ordinance 44-2013 also include a revised Section 225-63C that permits billboards as a principal use in three nonresidential zones within the Pinelands

Area. The zones in question are the GC (General Commercial), M-1 (Light Industrial) and RCD (Regional Commercial Development) Districts. Based on the standards adopted by Ordinance 44-2013, digital or LED billboards will now be permitted in these three zoning districts, subject to a number of conditions. Billboards are limited to 60 feet in height and 1,000 square feet of gross surface area per sign face. They must maintain a distance of 25 feet to any property line or existing or proposed right-of-way, 50 feet to any structure on the same lot, 500 feet to any residential zoning district and 1,000 feet to any interchange, intersection or other billboard on the same side of the highway. Digital billboards must conform to the lighting standards established by the Outdoor Advertising Association of America Brightness criteria. Finally, new billboards are permitted in the GC, M-1 and RCD Districts only upon a demonstration by the applicant that an existing billboard elsewhere in the Pinelands Area has been removed, consistent with N.J.A.C. 7:50-6.107(d) and 6.109(a)9 of the CMP.

The amendments made by Ordinance 44-2013 must be evaluated in terms of their consistency with the CMP's scenic management program, which contains standards for on-site and off-site signs (N.J.A.C. 7:50-6, Part X). With respect to billboards, the CMP permits new off-site commercial advertising signs anywhere within a Regional Growth Area provided an off-site commercial advertising sign in one of the conservation or agricultural areas of the Pinelands Area has been removed. Ordinance 44-2013, which permits new billboards in three Regional Growth Area zones, is consistent with this standard.

The CMP also contains general prohibitions on signs that are designed to attract attention by physical or lighting change. By their very nature, however, the types of changeable message signs and digital billboards permitted by Ordinance 44-2013 involve scrolling messages or advertisements that move or change on a regular basis. This presents a potential conflict with the CMP, which also requires that to the maximum extent practical, the character and composition of construction materials for all signs in the Pinelands Area should be harmonious with the scenic values of the Pinelands. It is important to note that the sign standards set forth in the CMP were written in 1980, prior to the use of digital or LED technology in association with on-site or off-site advertising signs. Also noteworthy is the fact that the CMP does not dictate the type of lighting (internal or external) that signs in the Pinelands Area must use. Therefore, the use of LED technology (internal illumination) is not an issue. Rather, it is the fact that digital or LED signs often involve the changing of one static image to another, or even the use of video, to attract attention.

Ordinance 44-2013 incorporates numerous standards to control the location, size and appearance of changeable message signs and digital billboards, including a restriction on the frequency with which the advertisements on such signs may change. Given that the entirety of Egg Harbor Township's Pinelands Area is designated as a Regional Growth Area, where the CMP permits and encourages all types of residential and commercial development, these standards sufficiently address concerns with scenic management.

The amendments adopted by Egg Harbor Township's November 2013 Master Plan Amendment and Ordinance 44-2013 are consistent with the land use and development standards of the Comprehensive Management Plan. Therefore, this standard for certification is met.

**3. Requirement for Certificate of Filing and Content of Development Applications**

Not applicable.

**4. Requirement for Municipal Review and Action on All Development**

Not applicable.

**5. Review and Action on Forestry Applications**

Not applicable.

**6. Review of Local Permits**

Not applicable.

**7. Requirement for Capital Improvement Program**

Not applicable.

**8. Accommodation of Pinelands Development Credits**

Not applicable.

**9. Referral of Development Applications to Environmental Commission**

Not applicable.

**10. General Conformance Requirements**

The November 2013 Amendment to the Master Plan of Egg Harbor Township and Ordinance 44-2013, amending Chapter 225 (Zoning) of the Code of Egg Harbor Township, are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan.

This standard for certification is met.

**11. Conformance with Energy Conservation**

Not applicable.



**12. Conformance with the Federal Act**

The November 2013 Amendment to the Master Plan of Egg Harbor Township and Ordinance 44-2013, amending Chapter 225 (Zoning) of the Code of Egg Harbor Township, are consistent with the standards and provisions of the Pinelands Comprehensive Management Plan. No special issues exist relative to the Federal Act.

This standard for certification is met.

**13. Procedure to Resolve Intermunicipal Conflicts**

Not applicable.

**PUBLIC HEARING**

A public hearing to receive testimony concerning Egg Harbor Township's application for certification of its November 2013 Master Plan Amendment and Ordinance 44-2013 was duly advertised, noticed and scheduled to held on March 3, 2014. However, due to inclement weather and the closure of all State offices on that date, the hearing had to be canceled and rescheduled.

A public hearing to receive testimony concerning Egg Harbor Township's application for certification of its November 2013 Master Plan Amendment and Ordinance 44-2013 was duly advertised, noticed and held on March 26, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m. Ms. Grogan conducted the hearing, at which the following testimony was received:

Ms. Theresa Lettman with the Pinelands Preservation Alliance briefly stated her concerns with digital billboards, particularly in the more rural areas of the Pinelands. She suggested the Commission consider regulating such signs by management area because other standards would be difficult to enforce. Ms. Lettman stated she would be submitting more detailed written comments (see Exhibit #1).

There being no further testimony, the hearing was concluded at 9:45 a.m.

Written comments were accepted through March 28, 2014 and were received from the following individuals:

March 26, 2014 letter from Theresa Lettman, Director of Monitoring Programs, Pinelands Preservation Alliance (see Exhibit #1)

March 26, 2014 letter from Georgina Shanley (see Exhibit #2)

March 27, 2014 letter from Margit Meissner-Jackson, Conservation Vice-Chair, Sierra Club, Ocean County (see Exhibit #3)

March 28, 2014 email from Leon M. Rosenson (see Exhibit #4)

**CONCLUSION**

Based on the Findings of Fact cited above, the Executive Director has concluded that the November 2013 Amendment to Egg Harbor Township's Master Plan and Ordinance 44-2013 comply with Comprehensive Management Plan standards for the certification of municipal master plans and land use ordinances. Accordingly, the Executive Director recommends that the Commission issue an order to certify the November 2013 Master Plan Amendment and Ordinance 44-2013 of Egg Harbor Township.

SRG/CEH

Attachments



## PINELANDS PRESERVATION ALLIANCE

Bishop Farmstead • 17 Pemberton Road • Southampton, NJ 08088  
Phone: 609-859-8860 • ppa@pinelandsalliance.org • www.pinelandsalliance.org

March 26, 2014

Executive Director's Report on EHT  
Nov 3013 MP Amendment & Ord  
#44-2013  
May 30, 2014 Exhibit #1

Susan Grogan  
Pinelands Commission  
15 Springfield Road  
P.O. Box 359  
New Lisbon, NJ 08064

### Re: Egg Harbor Township Ordinance 44-2013

Dear Ms. Grogan:

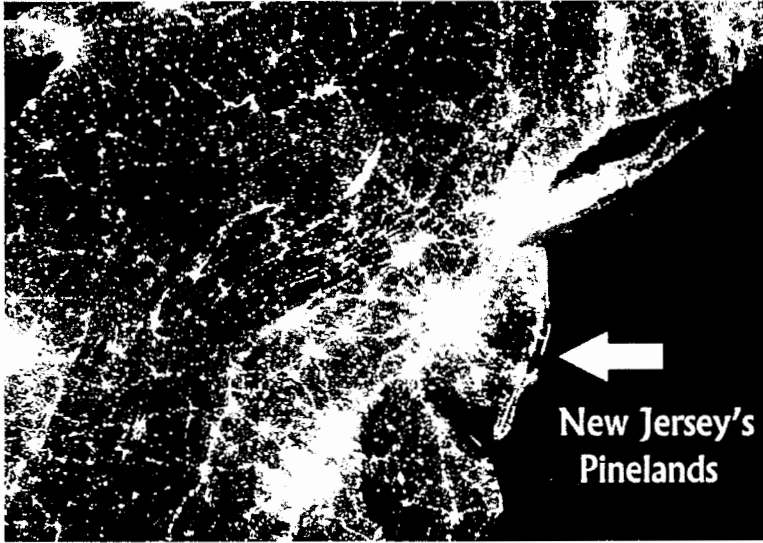
Egg Harbor Township Ordinance 44-2013 allows for electronic message signs in the Pinelands Regional Growth Areas of the township. PPA believes this ordinance should not be certified because it is not in conformance with the CMP. Section 7:50-3.1 (d) states:

*A local authority **that incorporates all of the elements of this Plan** in its local plan and ordinances will be assured of certification. In contrast, municipal plans and ordinances that deviate from the essential nature of this Plan are unlikely to be certified. However, it is a policy of this Plan to allow municipalities the greatest degree of flexibility and discretion in the preparation of local plans and ordinances so long as the plans and ordinances do not conflict with the ultimate objectives and minimum requirements of this Plan.*

Egg Harbor Township Ordinance 44-2013 conflicts with the minimum requirements of Section 7:50-6.106 on signs which requires each municipality to adopt provisions in its ordinances that contain section 7:50-6.107 (a). This section states:

*No sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted in any area.*

Egg Harbor Township's ordinance permits "digital LED billboards" which can be changeable at 10 second intervals. Lighting changes that frequent will be very dramatic at night time.



The dark rural areas of the New Jersey Pinelands will change quickly if these types of signs are allowed. The Comprehensive Management Plan got it right in 1980 when it wrote the sign section. The proof is the night sky of New Jersey. Allowing large electronic messaging signs in will not only allow for ecological light pollution but take away the view shed residents have of the sky.

Respectfully submitted,

Theresa Lettman  
Director of Monitoring Programs

Executive Director's Report  
on Egg Harbor Township's  
Nov 2013 MP amendment  
& Ord. #44-2013  
May 30, 2014  
Exhibit#2

2117 Bay Avenue  
Ocean City,  
NJ 08226  
609 398 1934  
March 26, 2014

Pinelands Commission  
15 Springfield Road, P.O. Box 359, New  
Lisbon, New Jersey 08064  
Facsimile (609) 894-7330

**Re: Egg Harbor Township Ordinance 44-2013**

Dear Chairman Lohbauer & Commission Members:

I am writing to oppose the certification of Egg Harbor Ordinance 44-2013 which allows for electronic message signs in the Pinelands Regional Growth area. It is not in conformance with the Comprehensive Management Plan of the Pinelands Commission.

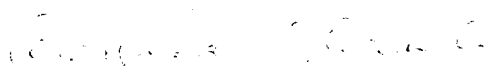
According to Section 7:50-3.1 (d) *A local authority that incorporates all of the elements of this Plan in its local plan and ordinances will be assured of certification. In contrast, municipal plans and ordinances that deviate from the essential nature of this Plan are unlikely to be certified. However, it is a policy of this Plan to allow municipalities the greatest degree of flexibility and discretion in the preparation of local plans and ordinances so long as the plans and ordinances do not conflict with the ultimate objectives and minimum requirements of this Plan.*

*No sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted in any area.*

Egg Harbor Township's ordinance permits "digital LED billboards" which can be changeable at 10 second intervals. Lighting changes that frequent will be very dramatic at night time.

The dark rural areas of the New Jersey Pinelands will change quickly if these types of signs are allowed. The Comprehensive Management Plan got it right in 1980 when it wrote the sign section. Allowing large electronic messaging signs creates light pollution besides not being in compliance with the CMP.

Respectfully,



Georgina Shanley



**SIERRA CLUB**  
FOUNDED 1892

**Ocean County Group**

PO BOX 4520, BRICK, NJ 08723  
TEL: [732] 451-9220 FAX: [732] 451-9227  
EM: SIERRACLUBOC@AOL.COM  
WWW.NEWJERSEY.SIERRACLUB.ORG/OCEAN/

New Jersey Pinelands Commission  
P.O. Box 359  
New Lisbon, NJ 08064

27 March 2014

Executive Director's Report on Egg Harbor  
Township's Nov 2013 Master Plan  
Amendment & Ord 44-2013  
May 30, 2014 Exhibit #3

**RE: Electronic Signs in the Pinelands**

Dear Members of the Pinelands Commission Staff,

As the Conservation and Vice-Chair of the Sierra Club Ocean County Group I submit the following comments concerning electronic signs within the protected Pinelands region. This issue was raised after a report of a large flashing-sign on the Stockton College Campus was brought to the Commission's attention.

**The Comprehensive Management Plan (CMP) N.J.A.C. 7:50-6.107:**

Mandatory sign provisions throughout the Pinelands states:

- 1 - No signs with sudden, intermittent or rhythmic movement or physical or lighting change
- 2 - No signs with movement or rotation or visual impression of movement or rotation
- 3 - No off site commercial advertising except those advertising agricultural commercial establishments within the Agricultural or Special Agricultural Areas subject to the following: a) Maximum of two signs in any one direction along each road approaching the stand and b) each sign along four lane State or US highways limited to 50 square feet, other roads 32 square feet
- 4 - Off site direction signs may be permitted provided they do not contain advertising and are restricted to the name of the public or private use, and necessary directions

Existing lawful off-site commercial advertising signs as of January 14, 1981 shall be permitted in Regional Growth Areas, Pineland Towns, and some restricted zones of Rural Growth Areas. To the maximum extent practical, the character and composition of construction materials must be harmonious with the scenic values of the Pinelands.

**The CMP N.J.A.C. 7:50 - 6.108 and N.J.A.C. 7:50 - 6.109 state:**

Standards for specific sign types:

- 1 -The CMP provides mandatory provisions for Preservation and Special Agricultural Areas within the Pinelands and guidelines for sign provisions in all other areas as summarized in the following table:

	7:50 - 6.108 Preservation & Special Agr. areas	7:50 - 6.109 All other
Official public safety and information signs	Y	Y
On site advertising the sale or rental of the premises, limited to one sign no more than 12 sq. ft.	Y	Y
On site identification signs for schools, churches, etc., one sign not to exceed 12 sq. ft.	Y	
Temporary political signs limited to 12 sq. ft.	Y	Y

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PAGE 02

Temporary on and off site civil or social signs, limited to 12 sq. ft.	Y	Y
Trespassing or postings noting private nature of property, limited to 12 sq. ft.	Y	Y
On site professional home occupation, limited to one sign	Y	Y
	12 sq. ft.	4 sq. ft.
On site business or advertising, limited to no more than two signs not exceeding 20 sq. ft. per side with maximum height of 15 feet	Y	Y
New off-site commercial advertising signs may be permitted by certified municipalities in Regional Growth Areas and Pine Barrens Towns provided that the applicant can demonstrate that for each new sign an existing lawful off site commercial sign has been removed by the applicant	N	Y

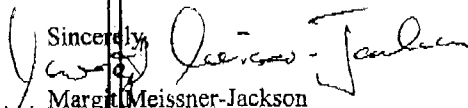
- 2 - Preservation All other & Special Agricultural areas
- Official public safety and information signs
- 3 - One sign no more than 12 sq. ft.

Two examples come to mind:

- a) Monroe if certified would be allowing them in the Regional Growth, **Rural Development and the Forest Area** along the Black Horse Pike. Rural Development and Forest Areas are the more environmentally sensitive areas even if it is along a highway. Roadways in these areas of townships are dark with not many street lights,
- b) Egg Harbor Township is allowing them only in the Regional Growth Area in commercial Zones.

Therefore, according to the CMP: . . . **No sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted in any area.** - So ordinances should not be certified.

We thank you for including our comments when you decide this issue; we are all interested in preserving this national treasure, our Pine Barrens.

Sincerely,  
  
 Signed . . . Margit Meissner-Jackson  
 Conservation/Vice-Chair  
 Sierra Club Ocean County

**From:** Lee Rosenson/Suzanne Levin <suleret@verizon.net>  
**To:** <planning@njpines.state.nj.us>  
**Date:** 3/28/2014 8:38 PM  
**Subject:** Egg Harbor Township Ordinance 44-2013

Executive Director's Report on  
Egg Harbor Township's Nov  
2013 MP Amendment & Ord  
#44-2013  
May 30, 2014 Exhibit #4

Dear Ms. Grogan,

I write to oppose certification of the Subject Ordinance which would allow for electronic billboard and message signs in the Pinelands Regional Growth Area portion of the township.

I believe that the CMP, in sections 7:50-6.106 and 7:50-6.107(a), contains very clear language that says no sign of this type is permitted in any area. In theory I am less opposed to placing this type of sign in Regional Growth Areas than I am in placing them in other areas. However, when the CMP clearly prohibits something the Commission should never approve of it without going through one of the prescribed procedures that allow for bypassing the rules under very exceptional situations.

Thank for your kind attention.

Leon M. Rosenson  
53 Gordon Way  
Princeton,  
NJ 08540





## **RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION**

NO. PC4-14- 20

**TITLE:** Issuing an Order to Conditionally Certify Ordinance 0:19-2013, Amending Chapter 175 (Land Management) of the Code of Monroe Township

Commissioner Galletta moves and Commissioner Pickett seconds the motion that:

**WHEREAS**, on September 3, 1983, the Pinelands Commission fully certified the Master Plan and Land Use Ordinances of Monroe Township; and

**WHEREAS**, Resolution #PC4-83-76 of the Pinelands Commission specified that any amendment to the Township's certified Master Plan and Land Use Ordinances be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 (Submission and Review of Amendments to Certified Master Plans and Land Use Ordinances) of the Comprehensive Management Plan to determine if said amendment raises a substantial issue with respect to conformance with the Pinelands Comprehensive Management Plan; and

**WHEREAS**, Resolution #PC4-83-76 further specified that any such amendment shall only become effective as provided in N.J.A.C. 7:50-3.45 of the Comprehensive Management Plan; and

**WHEREAS**, on December 9, 2013, Monroe Township adopted Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Township's Code by adopting standards for changeable copy and electronic message center signs; and

**WHEREAS**, within the Pinelands Area, Ordinance 0:19-2013 permits changeable copy and electronic message signs along the Black Horse Pike corridor, within the Forest, Rural Development and Regional Growth Areas; and

**WHEREAS**, the Pinelands Commission received a certified copy of Ordinance 0:19-2013 on December 12, 2013; and

**WHEREAS**, by letter dated February 10, 2014, the Executive Director notified the Township that Ordinance 0:19-2013 would require formal review and approval by the Pinelands Commission; and

**WHEREAS**, a public hearing to receive testimony Ordinance 0:19-2013 was duly advertised and noticed and scheduled to be held on March 3, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

**WHEREAS**, due to inclement weather and the closure of all State offices on March 3, 2014, the public hearing had to be canceled and rescheduled; and

**WHEREAS**, a public hearing to receive testimony on Ordinance 0:19-2013 was duly advertised, noticed and held on March 26, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

**WHEREAS**, the Executive Director has found that Ordinance 0:19-2013 is not fully consistent with the standards and provisions of the Pinelands Comprehensive Management Plan; and

**WHEREAS**, the Executive Director has submitted a report to the Commission recommending issuance of an order to certify with conditions that Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Code of Monroe, is in conformance with the Pinelands Comprehensive Management Plan; and

**WHEREAS**, the Commission's CMP Policy and Implementation Committee has reviewed the Executive Director's report and has recommended that Ordinance 0:19-2013 be conditionally certified; and

**WHEREAS**, the Pinelands Commission has duly considered all public testimony submitted to the Commission concerning Ordinance 0:19-2013 and has reviewed the Executive Director's report; and

**WHEREAS**, the Pinelands Commission accepts the recommendation of the Executive Director; and

**WHEREAS**, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

**NOW, THEREFORE BE IT RESOLVED** that

1. An Order is hereby issued to certify with conditions that Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Code of Monroe, is in conformance with the Pinelands Comprehensive Management Plan. To obtain full certification of Ordinance 0:19-2013 by the Pinelands Commission, Monroe Township must amend Chapter 175 in accordance with Attachment A of this Order. The Township need not adopt the conditions in Attachment A verbatim; revisions comparable thereto or consistent therewith in intent may also be acceptable.
2. Monroe Township shall have until October 10, 2014 to adopt and submit the revisions to Chapter 175 to the Pinelands Commission for approval pursuant to N.J.A.C. 7:50-3.45 and Attachment A hereto.
3. If the Township fails to submit the revisions to Chapter 175 pursuant to N.J.A.C. 7:50-3.45 and Attachment A hereto by October 10, 2014, or if such a submission is not fully certified by the Pinelands Commission, Ordinance 0:19-2013 shall be disapproved.
4. Any additional amendments to Monroe Township's certified Master Plan and Land Use Ordinances shall be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 to determine if said amendments raise a substantial issue with respect to the Comprehensive Management Plan. Any such amendment shall become effective only as provided in N.J.A.C. 7:50-3.45.

**Record of Commission Votes**

AYE NAY NP ABS				AYE NAY NP ABS				AYE NAY NP ABS				
Ashmun	X			Galletta		X		Prickett	X			
Avery	X			Jackson	X			Quinn			X	
Brown	X			Jannarone			X	Rohan Green			X	
DiBello	X			Lloyd	X			Witt			X	
Earlen			X	McGlinchey			X	Lohbauer	X			

Adopted at a meeting of the Pinelands Commission

Date: June 12, 2014

Nancy L. Wittenberg  
Nancy Wittenberg  
Executive Director

Mark S. Lohbauer  
Mark S. Lohbauer  
Chairman

**ATTACHMENT A TO THE EXECUTIVE DIRECTOR'S MAY 30, 2014 REPORT ON  
MONROE TOWNSHIP ORDINANCE 0:19-2013**

Adoption of the following amendments to Chapter 175 (Land Management) of the Code of Monroe Township will make Ordinance 0:19-2013 consistent with the Pinelands Comprehensive Management Plan:

1. Amend §175-135A to read as follows:

A. Zone district prohibitions. No sign shall be permitted in any district except as specifically permitted herein with the exception of billboards, which are regulated and defined by §175-91.2. Changeable copy or electronic message center (EMC) signs are only permitted along (1) the Black Horse Pike corridor from Berlin-Cross Keys Road to the Township boundary with the Borough of Folsom and (2) State Highway Route 322 from the Township boundary with the Borough of Glassboro to its intersection with the Black Horse Pike. In the Pinelands Area, changeable copy or EMC signs along the Black Horse Pike corridor or State Highway Route 322 shall be permitted only in those zones within the Regional Growth Area. Changeable copy or EMC signs shall not be permitted in the RD-C or FD-10 Zones.

2. Amend §175-135E by adding the following as subsections E(19) and (20):

19. In the Pinelands Area, no sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted, with the exception of changeable copy or EMC signs in the Regional Growth Area in accordance with §175-135G(4).

20. In the Pinelands Area, no sign, other than warning or safety signs, which changes physical position by any movement or rotation or which gives the visual impression of such movement or rotation shall be permitted, with the exception of changeable copy or EMC signs in the Regional Growth Area in accordance with §175-135G(4).

3. Amend §175-135J to read as follows:

J. In the Pinelands Area of the Township, any existing sign which does not conform to Subsections E(19) and (20) shall be removed immediately. Any existing sign which does not conform to Subsection E(1) shall be removed no later than December 5, 1996.



State of New Jersey  
 THE PINELANDS COMMISSION  
 PO Box 359  
 NEW LISBON, NJ 08064  
 (609) 894 7300  
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Chris Christie  
 Governor  
 Kim Guadagno  
 Lt. Governor

General Information: Info@njpinelands.state.nj.us  
 Application Specific Information: AppInfo@njpinelands.state.nj.us

Mark S. Lohbauer  
 Chairman  
 Nancy Wittenberg  
 Executive Director

**REPORT ON ORDINANCE 0:19-2013, AMENDING CHAPTER 175  
 (LAND MANAGEMENT) OF THE CODE OF MONROE TOWNSHIP**

May 30, 2014

Monroe Township  
 125 Virginia Avenue  
 Williamstown, NJ 08094

**FINDINGS OF FACT**

I. Background

The Township of Monroe is located in the western section of the Pinelands Area in Gloucester County. Pinelands municipalities that abut Monroe Township's Pinelands Area include Franklin Township in Gloucester County, Winslow Township in Camden County and the Borough of Folsom and the Township of Buena Vista in Atlantic County.

On September 3, 1983, the Pinelands Commission fully certified the Master Plan and Comprehensive Land Management Ordinance of Monroe Township, now codified as Chapter 175 (Land Management) of the Township's Code.

On December 9, 2013, Monroe Township adopted Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Township's Code by adopting standards for changeable copy and electronic message center signs. Within the Pinelands Area, Ordinance 0:19-2013 permits changeable copy and electronic message signs along the Black Horse Pike and Route 322 corridors, within the Forest, Rural Development and Regional Growth Areas. The Pinelands Commission received a certified copy of Ordinance 0:19-2013 on December 12, 2013.

By letter dated February 10, 2014, the Executive Director notified the Township that Ordinance 0:19-2013 would require formal review and approval by the Pinelands Commission.

II. Master Plans and Land Use Ordinances

The following ordinance has been submitted to the Pinelands Commission for certification:

- \* Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Code of Monroe Township, introduced on November 25, 2013 and adopted on December 9, 2013.

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This ordinance amendment has been reviewed to determine whether it conforms with the standards for certification of municipal master plans and land use ordinances as set out in N.J.A.C. 7:50 3.39 of the Pinelands Comprehensive Management Plan. The findings from this review are presented below. The numbers used to designate the respective items correspond to the numbers used to identify the standards in N.J.A.C. 7:50 3.39.

**1. Natural Resource Inventory**

Not applicable.

**2. Required Provisions of Land Use Ordinance Relating to Development Standards**

Ordinance 0:19-2013 amends Chapter 175 (Land Management) of the Code of Monroe Township by revising sign standards. Specifically, Ordinance 0:19-2013 adopts standards for changeable copy and electronic message center (EMC) signs. Changeable copy signs are defined as signs with the capability of content change by means of manned or remote input. An EMC sign, as defined by Ordinance 0:19-2013, is a type of electronically activated changeable copy sign, one whose variable messages and graphic presentation capability are electronically programmed from a remote location. EMC signs typically use light emitting diodes (LED) as a lighting source, rather than relying on a more traditional means of external illumination.

The standards adopted by Ordinance 0:19-2013 for changeable copy and EMC signs include maximum luminance levels and a requirement that all EMC signs be equipped with automatic dimming controls to adjust the light emitted during ambient low light conditions and night. Each message on a changeable copy or EMC sign must be fixed for at least 8 seconds before changing to the next message. Continuous scrolling, flashing, blinking, spinning, rotating and similar moving effects are not permitted. Similarly, off-site advertising is not permitted on changeable copy or electronic message center signs, other than public service information approved by Monroe Township. To that end, approved changeable copy and EMC signs must be registered with the Township Clerk to facilitate the posting of emergency messages and the scheduling or cancellation of Township events.

Notably, Ordinance 0:19-2013 restricts the location of changeable copy and EMC signs to those areas of the municipality located along the Black Horse Pike and State Highway Route 322 corridors. In the Pinelands Area, these corridors extend through the Regional Growth, Rural Development and Forest Areas and include a variety of residential and nonresidential zoning districts.

Finally, Ordinance 0:19-2013 deletes from Section 175-135E general prohibitions on signs using flashing lights, rhythmic movement, rotation, or physical or lighting changes to attract attention. These prohibitions, taken directly from N.J.A.C. 7:50-6.107(a) and (b) of the CMP, were mandatory components of Monroe's land use ordinance upon its original certification by the Commission in 1983. As such, they will need to be readopted as part of Section 175-135E before Ordinance 0:19-2013 can be determined to be consistent with the CMP. Language to do so is included in the conditions for certification in Attachment A.

Additional revisions to Ordinance 0:19-2013 will be necessary to specifically address changeable copy and EMC signs. The scenic management standards of the CMP include a prohibition on signs that are designed to attract attention by physical or lighting change in the Pinelands Area. However, by their very nature, changeable copy and EMC signs involve scrolling messages or advertisements that move or change on a regular basis. This presents a potential conflict with the CMP, which also requires that the character and composition of signs in the Pinelands Area be harmonious with the scenic values of the Pinelands, to the maximum extent practical. It is important to note that the sign standards set forth in the CMP were written in 1980, prior to the use of digital or LED technology in association with on-site or off-site advertising signs. Also noteworthy is the fact that the CMP does not dictate the type of lighting (internal or external) that signs in the Pinelands Area must use. Therefore, it is not the use of LED technology (internal illumination) that raises an issue. Rather, it is the fact that digital or LED signs often involve the changing of one static image to another, or even the use of video, to attract attention.

Ordinance 0:19-2013 incorporates numerous standards to control the location, size and appearance of changeable copy and EMC signs, including a restriction on the frequency with which the advertisements on such signs may change. Within the Regional Growth Area, where the CMP permits and encourages all types of residential and commercial development, these standards sufficiently address concerns with scenic management. However, the potential for conflict with CMP standards remains in the more rural areas of the Pinelands where scenic resources require protection. Therefore, Section 175-135A will need to be revised to restrict the location of changeable copy and EMC signs to those portions of the Black Horse Pike and Route 322 corridors that fall within a Regional Growth Area. Changeable copy and EMC signs are simply not appropriate outside the designated development areas of the Pinelands. The practical effect of this requirement is that changeable copy and EMC signs will not be permitted along that portion of the Black Horse Pike that extends from Monroe's Regional Growth Area to the municipal border with Folsom Borough.

Ordinance 0:19-2013 is not fully consistent with the land use and development standards of the Comprehensive Management Plan. However, with the adoption of the amendments set forth in Attachment A hereto, this standard for certification will be met.

**3. Requirement for Certificate of Filing and Content of Development Applications**

Not applicable.

**4. Requirement for Municipal Review and Action on All Development**

Not applicable.

**5. Review and Action on Forestry Applications**

Not applicable.

**6. Review of Local Permits**

Not applicable.

**7. Requirement for Capital Improvement Program**

Not applicable.

**8. Accommodation of Pinelands Development Credits**

Not applicable.

**9. Referral of Development Applications to Environmental Commission**

Not applicable.

**10. General Conformance Requirements**

Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Code of Monroe Township, is not fully consistent with the standards and provisions of the Pinelands Comprehensive Management Plan.

With the adoption of the amendments set forth in Attachment A, this standard for certification will be met.

**11. Conformance with Energy Conservation**

Not applicable.

**12. Conformance with the Federal Act**

No special issues exist relative to the Federal Act. However, Ordinance 0:19-2013, amending Chapter 175 (Land Management) of the Code of Monroe Township, is not fully consistent with the standards and provisions of the Pinelands Comprehensive Management Plan.

With the adoption of the amendments set forth in Attachment A, this standard for certification will be met.

**13. Procedure to Resolve Intermunicipal Conflicts**

Not applicable.

### **PUBLIC HEARING**

A public hearing to receive testimony concerning Monroe Township's application for certification of Ordinance 0:19-2013 was duly advertised, noticed and scheduled to held on March 3, 2014. However, due to inclement weather and the closure of all State offices on that date, the hearing had to be canceled and rescheduled.

A public hearing to receive testimony concerning Monroe Township's application for certification of Ordinance 0:19-2013 was duly advertised, noticed and held on March 26, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m. Ms. Grogan conducted the hearing, at which the following testimony was received:

Mr. Timothy Kernan, Monroe Township's Planner, stated that there had been much debate over where digital signs should be allowed at various Planning Board and other municipal meetings. Ultimately, the Township decided to restrict such signs to the Black Horse Pike and Route 322 corridors. In the Pinelands Area, the Black Horse Pike corridor extends to the boundary with Folsom Borough, through the Regional Growth, Rural Development and Forest Areas. Mr. Kernan stated that Ordinance 0:19-2013 is fairly restrictive; however, he did not believe the Township had taken CMP sign and scenic standards into account when drafting the ordinance.

Ms. Theresa Lettman with the Pinelands Preservation Alliance briefly stated her concerns with digital billboards, particularly in the more rural areas of the Pinelands. She suggested the Commission consider regulating such signs by management area because other standards would be difficult to enforce. Ms. Lettman stated she would be submitting more detailed written comments (see Exhibit #1).

There being no further testimony, the hearing was concluded at 9:45 a.m.

Written comments were accepted through March 28, 2014 and were received from the following individuals:

March 26, 2014 letter from Theresa Lettman, Director of Monitoring Programs, Pinelands Preservation Alliance (see Exhibit #1)

March 26, 2014 letter from Georgina Shanley (see Exhibit #2)

March 27, 2014 letter from Margit Meissner-Jackson, Conservation Vice-Chair, Sierra Club, Ocean County (see Exhibit #3)

March 28, 2014 email from Leon M. Rosenson (see Exhibit #4)



**CONCLUSION**

Based on the Findings of Fact cited above, the Executive Director has concluded Ordinance 0:19-2013 does not fully comply with Comprehensive Management Plan standards for the certification of municipal master plans and land use ordinances. Accordingly, the Executive Director recommends that the Commission issue an order to conditionally certify Ordinance 0:19-2013 of Monroe Township.

SRG/CMO  
Attachments

**ATTACHMENT A TO THE EXECUTIVE DIRECTOR'S MAY 30, 2014 REPORT ON  
MONROE TOWNSHIP ORDINANCE 0:19-2013**

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## PINELANDS PRESERVATION ALLIANCE

Bishop Farmstead • 17 Pemberton Road • Southampton, NJ 08088  
Phone: 609-859-8860 • ppa@pinelandsalliance.org • www.pinelandsalliance.org

March 26, 2014

Executive Director's Report on  
Monroe Twp. Ord. #O:19-2013  
May 30, 2014 Exhibit #1

Susan Grogan  
Pinelands Commission  
15 Springfield Road  
P.O. Box 359  
New Lisbon, NJ 08064

### **Re: Monroe Township Ordinance O:19-2013**

Dear Ms. Grogan:

Monroe Township has passed Ordinance O:19-2013 which allows for electronic message signs in the Pinelands Forest, Rural Development and Regional Growth Areas of the township. PPA believes this ordinance should not be certified because it is not in conformance with the CMP. Section 7:50-3.1 (d) states:

*A local authority **that incorporates all of the elements of this Plan** in its local plan and ordinances will be assured of certification. In contrast, municipal plans and ordinances that deviate from the essential nature of this Plan are unlikely to be certified. However, it is a policy of this Plan to allow municipalities the greatest degree of flexibility and discretion in the preparation of local plans and ordinances so long as the plans and ordinances do not conflict with the ultimate objectives and minimum requirements of this Plan.*

Monroe's Ordinance O:19-2013 conflicts with the minimum requirements of Section 7:50-6.106 on signs which requires each municipality to adopt provisions in its ordinances that contain section 7:50-6.107 (a). This section states:

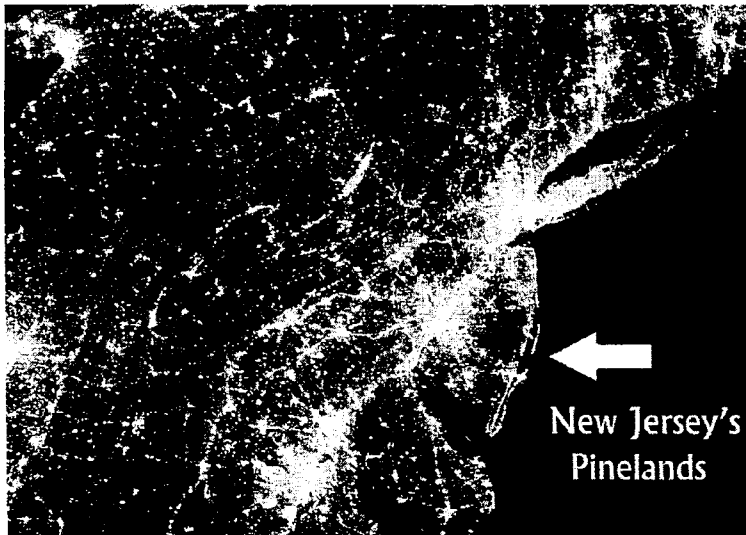
*No sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted in any area.*

Monroe's ordinance permits "changeable copy and electronic message center signs" which are programmed by computer allowing them to be intermittent or rhythmic in movement. These signs will also be allowed to change every eight seconds. Lighting changes that frequent will be very dramatic at night time.

Monroe is allowing in its ordinance that these flashing changing signs will be permitted in the Regional Growth, Rural Development and Forest Area along the Black Horse Pike. These portions of the Black Horse Pike are through the Rural Development and Forest Area are dark at night, it's a rural area. The

Pinelands Commission's EIA scores are 80 & 90%, on either side of the roadway, through this area. The New Jersey Landscape Mapping indicates that this area is a corridor for the Barred Owl. The attached papers point out the impacts changing light patterns have on species and their habitats.

Lastly, the ordinance gives a display time of eight seconds and a luminance level of 750 cd/m<sup>2</sup>, but I find it hard to believe any Township officials will be able to regulate and enforce the provisions of the ordinance.



The dark rural areas of the New Jersey Pinelands will change quickly if these types of signs are allowed. The Comprehensive Management Plan got it right in 1980 when it wrote the sign section. The proof is the night sky of New Jersey. Allowing large electronic messaging signs in the rural areas will not only allow for ecological light pollution but take away the view shed residents have of the sky.

Respectfully submitted,



Theresa Lettman  
Director of Monitoring Programs

# Ecological light pollution

Travis Longcore and Catherine Rich

Ecologists have long studied the critical role of natural light in regulating species interactions, but, with limited exceptions, have not investigated the consequences of artificial night lighting. In the past century, the extent and intensity of artificial night lighting has increased such that it has substantial effects on the biology and ecology of species in the wild. We distinguish "astronomical light pollution", which obscures the view of the night sky, from "ecological light pollution", which alters natural light regimes in terrestrial and aquatic ecosystems. Some of the catastrophic consequences of light for certain taxonomic groups are well known, such as the deaths of migratory birds around tall lighted structures, and those of hatchling sea turtles disoriented by lights on their natal beaches. The more subtle influences of artificial night lighting on the behavior and community ecology of species are less well recognized, and constitute a new focus for research in ecology and a pressing conservation challenge.

*Front Ecol Environ* 2004; 2(4): 191–198

As diurnal creatures, humans have long sought methods to illuminate the night. In pre-industrial times, artificial light was generated by burning various materials, including wood, oil, and even dried fish. While these methods of lighting certainly influenced animal behavior and ecology locally, such effects were limited. The relatively recent invention and rapid proliferation of electric lights, however, have transformed the nighttime environment over substantial portions of the Earth's surface.

Ecologists have not entirely ignored the potential disruption of ecological systems by artificial night lighting. Several authors have written reviews of the potential effects on ecosystems or taxonomic groups, published in the "gray" literature (Health Council of the Netherlands 2000; Hill 1990), conference proceedings (Outen 2002; Schmiedel 2001), and journal articles (Frank 1988; Verheijen 1985; Salmon 2003). This review attempts to integrate the literature on the topic, and draws on a conference organized by the authors in 2002 titled *Ecological Consequences of Artificial Night Lighting*. We identify the roles that artificial night lighting plays in changing eco-

logical interactions across taxa, as opposed to reviewing these effects by taxonomic group. We first discuss the scale and extent of ecological light pollution and its relationship to astronomical light pollution, as well as the measurement of light for ecological research. We then address the recorded and potential influences of artificial night lighting within the nested hierarchy of behavioral and population ecology, community ecology, and ecosystem ecology. While this hierarchy is somewhat artificial and certainly mutable, it illustrates the breadth of potential consequences of ecological light pollution. The important effects of light on the physiology of organisms (see Health Council of the Netherlands 2000) are not discussed here.

## ■ Astronomical and ecological light pollution: scale and extent

The term "light pollution" has been in use for a number of years, but in most circumstances refers to the degradation of human views of the night sky. We want to clarify that this is "astronomical light pollution", where stars and other celestial bodies are washed out by light that is either directed or reflected upward. This is a broad-scale phenomenon, with hundreds of thousands of light sources cumulatively contributing to increased nighttime illumination of the sky; the light reflected back from the sky is called "sky glow" (Figure 1). We describe artificial light that alters the natural patterns of light and dark in ecosystems as "ecological light pollution". Verheijen (1985) proposed the term "photopollution" to mean "artificial light having adverse effects on wildlife". Because photopollution literally means "light pollution" and because light pollution is so widely understood today to describe the degradation of the view of the night sky and the human experience of the night, we believe that a more descriptive term is now necessary. Ecological light pollution includes direct glare, chronically increased illumina-

### In a nutshell:

- Ecological light pollution includes chronic or periodically increased illumination, unexpected changes in illumination, and direct glare
- Animals can experience increased orientation or disorientation from additional illumination and are attracted to or repulsed by glare, which affects foraging, reproduction, communication, and other critical behaviors
- Artificial light disrupts interspecific interactions evolved in natural patterns of light and dark, with serious implications for community ecology

The Urban Wildlands Group, PO Box 24020, Los Angeles, CA 90024-0020 ([longcore@urbanwildlands.org](mailto:longcore@urbanwildlands.org))

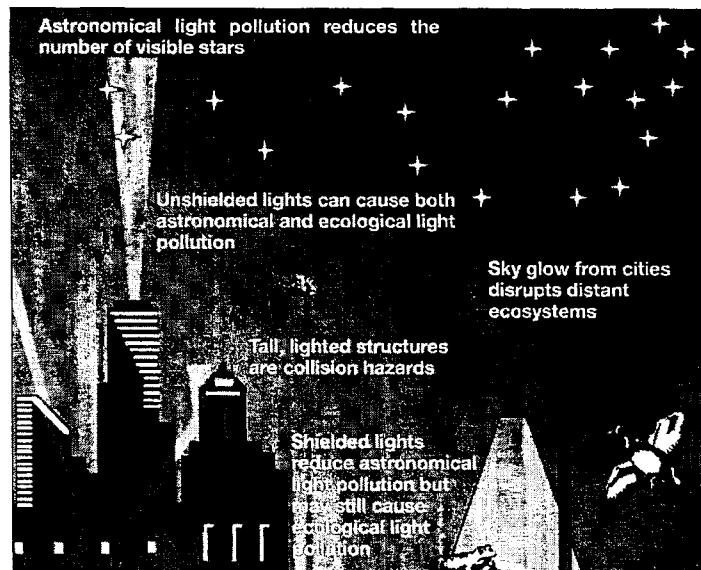


Figure 1. Diagram of ecological and astronomical light pollution.

tion, and temporary, unexpected fluctuations in lighting. Sources of ecological light pollution include sky glow, lighted buildings and towers, streetlights, fishing boats, security lights, lights on vehicles, flares on offshore oil platforms, and even lights on undersea research vessels, all of which can disrupt ecosystems to varying degrees. The phenomenon therefore involves potential effects across a range of spatial and temporal scales.

The extent of ecological light pollution is global (Elvidge *et al.* 1997; Figure 2). The first atlas of artificial night sky brightness illustrates that astronomical light pollution extends to every inhabited continent (Cinzano *et al.* 2001). Cinzano *et al.* (2001) calculate that only 40% of Americans live where it becomes sufficiently dark at night for the human eye to make a complete transition from cone to rod vision and that 18.7% of the terrestrial surface of the Earth is exposed to night sky brightness that is polluted by astronomical standards. Ecosystems may be affected by these levels of illumination and lights that do not contribute to sky glow may still have ecological consequences, ensuring that ecological light pollution afflicts an even greater proportion of the Earth. Lighted fishing fleets, offshore oil platforms, and cruise ships bring the disruption of artificial night lighting to the world's oceans.

The tropics may be especially sensitive to alterations in natural diel (ie over a 24-hour period) patterns of light and dark because of the year-round constancy of daily cycles (Gliwicz 1999). A shortened or brighter night is more likely to affect tropical species adapted to diel patterns with minimal seasonal variation than extratropical species adapted to substantial seasonal variation. Of course, temperate and polar zone species active only during a portion of the year would be excluded from this gen-

eralization. Species in temperate zones will also be susceptible to disruptions if they depend on seasonal day length cues to trigger critical behaviors.

#### ■ Measurements and units

Measurement of ecological light pollution often involves determination of illumination at a given place. Illumination is the amount of light incident per unit area – not the only measurement relevant to ecological light pollution, but the most common. Light varies in intensity (the number of photons per unit area) and spectral content (expressed by wavelength). Ideally, ecologists should measure illumination in photons per square meter per second with associated measurements of the wavelengths of light present. More often, illumination is measured in lux (or footcandles, the non-SI unit), which expresses the brightness of light as perceived by the human

eye. The lux measurement places more emphasis on wavelengths of light that the human eye detects best and less on those that humans perceive poorly. Because other organisms perceive light differently – including wavelengths not visible to humans – future research on ecological light pollution should identify these responses and measure light accordingly. For example, Gal *et al.* (1999) calculated the response curve of mysid shrimp to light and reported illumination in lux adjusted for the spectral sensitivity of the species.

Ecologists are faced with a practical difficulty when communicating information about light conditions. Lux is the standard used by nearly all lighting designers, lighting engineers, and environmental regulators; communication with them requires reporting in this unit. Yet the use of lux ignores biologically relevant information. High-pressure sodium lights, for instance, will attract moths because of the presence of ultraviolet wavelengths, while low-pressure sodium lights of the same intensity, but not producing ultraviolet light, will not (Rydell 1992). Nevertheless, we use lux here, both because of the need to communicate with applied professionals, and because of its current and past widespread usage. As this research field develops, however, measurements of radiation and spectrum relevant to the organisms in question should be used, even though lux will probably continue to be the preferred unit for communication with professionals in other disciplines.

Ecologists also measure aspects of the light environment other than absolute illumination levels. A sudden change in illumination is disruptive for some species (Buchanan 1993), so percent change in illumination, rate, or similar measures may be relevant. Ecologists may also measure luminance (ie brightness) of light sources that are visible to organisms.



**Figure 2.** Distribution of artificial lights visible from space. Produced using cloud-free portions of low-light imaging data acquired by the US Air Force Defense Meteorological Satellite Program Operational Linescan System. Four types of lights are identified: (1) human settlements – cities, towns, and villages (white), (2) fires – defined as ephemeral lights on land (red), (3) gas flares (green), and (4) heavily lit fishing boats (blue). See Elvidge et al. (2001) for details. Image, data processing, and descriptive text by the National Oceanic and Atmospheric Administration's National Geophysical Data Center.

#### ■ Behavioral and population ecology

Ecological light pollution has demonstrable effects on the behavioral and population ecology of organisms in natural settings. As a whole, these effects derive from changes in orientation, disorientation, or misorientation, and attraction or repulsion from the altered light environment, which in turn may affect foraging, reproduction, migration, and communication.

#### Orientation/disorientation and attraction/repulsion

Orientation and disorientation are responses to ambient illumination (ie the amount of light incident on objects in an environment). In contrast, attraction and repulsion occur in response to the light sources themselves and are therefore responses to luminance or the brightness of the source of light (Health Council of the Netherlands 2000).

Increased illumination may extend diurnal or crepuscular behaviors into the nighttime environment by improving an animal's ability to orient itself. Many usually diurnal birds (Hill 1990) and reptiles (Schwartz and Henderson 1991), for example, forage under artificial lights. This has been termed the "night light niche" for reptiles and seems beneficial for those species that can exploit it, but not for their prey (Schwartz and Henderson 1991).

In addition to foraging, orientation under artificial illumination may induce other behaviors, such as territorial singing in birds (Bergen and Abs 1997). For the northern mockingbird (*Mimus polyglottos*), males sing at night before mating, but once mated only sing at night in artificially

lighted areas (Derrickson 1988) or during the full moon. The effect of these light-induced behaviors on fitness is unknown.

Constant artificial night lighting may also disorient organisms accustomed to navigating in a dark environment. The best-known example of this is the disorientation of hatchling sea turtles emerging from nests on sandy beaches. Under normal circumstances, hatchlings move away from low, dark silhouettes (historically, those of dune vegetation), allowing them to crawl quickly to the ocean. With beachfront lighting, the silhouettes that would have cued movement are no longer perceived, resulting in disorientation (Salmon et al. 1995). Lighting also affects the egg-laying behavior of female sea turtles. (For reviews of effects on sea turtles, see Salmon 2003 and Witherington 1997).

Changes in light level may disrupt orientation in nocturnal animals. The range of anatomical adaptations to allow night vision is broad (Park 1940), and rapid increases in light can blind animals. For frogs, a quick increase in illumination causes a reduction in visual capability from which the recovery time may be minutes to hours (Buchanan 1993). After becoming adjusted to a light, frogs may be attracted to it as well (Jaeger and Hailman 1973; Figure 3).

Birds can be disoriented and entrapped by lights at night (Ogden 1996). Once a bird is within a lighted zone at night, it may become "trapped" and will not leave the lighted area. Large numbers of nocturnally migrating birds are therefore affected when meteorological conditions bring them close to lights, for instance, during inclement weather or late at night when they tend to fly lower.



**Figure 3.** Attraction of frogs to a candle set out on a small raft. Illustration by Charles Copeland of an experiment in northern Maine or Canada described by William J Long (1901). Twelve or fifteen bullfrogs (*Rana catesbeiana*) climbed on to the small raft before it flipped over.

Within the sphere of lights, birds may collide with each other or a structure, become exhausted, or be taken by predators. Birds that are waylaid by buildings in urban areas at night often die in collisions with windows as they try to escape during the day. Artificial lighting has attracted birds to smokestacks, lighthouses (Squires and Hanson 1918), broadcast towers (Ogden 1996), boats (Dick and Donaldson 1978), greenhouses, oil platforms (Wiese *et al.* 2001), and other structures at night, resulting in direct mortality, and thus interfering with migration routes.

Many groups of insects, of which moths are one well-known example (Frank 1988), are attracted to lights. Other taxa showing the same attraction include lacewings, beetles, bugs, caddisflies, crane flies, midges, hoverflies, wasps, and bush crickets (Eisenbeis and Hassel 2000; Kolligs 2000; Figure 4). Attraction depends on the spectrum of light – insect collectors use ultraviolet light because of its attractive qualities – and the characteristics of other lights in the vicinity.



**Figure 4.** Thousands of mayflies carpet the ground around a security light at Millecoquins Point in Naubinway on the Upper Peninsula of Michigan.

Nonflying arthropods vary in their reaction to lights. Some nocturnal spiders are negatively phototactic (ie repelled by light), whereas others will exploit light if available (Nakamura and Yamashita 1997). Some insects are always positively phototactic as an adaptive behavior and others always photonegative (Summers 1997). In arthropods, these responses may also be influenced by the frequent correlations between light, humidity, and temperature.

Natural resource managers can exploit the responses of animals to lights. Lights are sometimes used to attract fish to ladders, allowing them to bypass dams and power plants (Haymes *et al.* 1984). Similarly, lights can attract larval fish to coral reefs (Munday *et al.* 1998). In the terrestrial realm, dispersing mountain lions avoid lighted areas to such a degree that Beier (1995) suggests installing lights to deter them from entering habitats dead-ending in areas where humans live.

### Reproduction

Reproductive behaviors may be altered by artificial night lighting. Female *Physalaemus pustulosus* frogs, for example, are less selective about mate choice when light levels are increased, presumably preferring to mate quickly and avoid the increased predation risk of mating activity (Rand *et al.* 1997). Night lighting may also inhibit amphibian movement to and from breeding areas by stimulating phototactic behavior. Bryant Buchanan (pers comm) reports that frogs in an experimental enclosure stopped mating activity during night football games, when lights from a nearby stadium increased sky glow. Mating choruses resumed only when the enclosure was covered to shield the frogs from the light.

In birds, some evidence suggests that artificial night lighting affects the choice of nest site. De Molenaar *et al.*



(2000) investigated the effects of roadway lighting on black-tailed godwits (*Limosa l. limosa*) in wet grassland habitats. Breeding densities of godwits were recorded over 2 years, comparing lighted and unlighted conditions near a roadway and near light poles installed in a wet grassland away from the road influence. When all other habitat factors were taken into account, the density of nests was slightly but statistically lower up to 300 m away from the lighting at roadway and control sites. The researchers also noted that birds nesting earlier in the year chose sites farther away from the lighting, while those nesting later filled in sites closer to the lights.

### Communication

Visual communication within and between species may be influenced by artificial night lighting. Some species use light to communicate, and are therefore especially susceptible to disruption. Female glow-worms attract males up to 45 m away with bioluminescent flashes; the presence of artificial lighting reduces the visibility of these communications. Similarly, the complex visual communication system of fireflies could be impaired by stray light (Lloyd 1994).

Artificial night lighting could also alter communication patterns as a secondary effect. Coyotes (*Canis latrans*) group howl and group yip-howling more during the new moon, when it is darkest. Communication is necessary either to reduce trespassing from other packs, or to assemble packs to hunt larger prey during dark conditions (Bender *et al.* 1996). Sky glow could increase ambient illumination to eliminate this pattern in affected areas.

Because of the central role of vision in orientation and behavior of most animals, it is not surprising that artificial lighting alters behavior. This causes an immediate conservation concern for some species, while for other species the influence may seem to be positive. Such "positive" effects, however, may have negative consequences within the context of community ecology.

### ■ Community ecology

The behaviors exhibited by individual animals in response to ambient illumination (orientation, disorientation) and to luminance (attraction, repulsion) influence community interactions, of which competition and predation are examples.

#### Competition

Artificial night lighting could disrupt the interactions of groups of species that show resource partitioning across illumination gradients. For example, in natural commu-



Figure 5. Crowned hornbill (*Tockus alboterminatus*) hawking insects at a light at the Kibale Forest National Park, Uganda.

nities, some foraging times are partitioned among species that prefer different levels of lighting. The squirrel treefrog (*Hyla squirrela*) is able to orient and forage at lighting levels as low as  $10^{-5}$  lux and under natural conditions typically will stop foraging at illuminations above  $10^{-3}$  lux (Buchanan 1998). The western toad (*Bufo boreas*) forages only at illuminations between  $10^1$  and  $10^5$  lux, while the tailed frog (*Ascaphus truei*) forages only during the darkest part of the night at below  $10^{-5}$  lux (Hailman 1984). While these three species are not necessarily sympatric (ie inhabiting the same area), and differ in other niche dimensions, they illustrate the division of the light gradient by foragers.

Many bat species are attracted to insects that congregate around light sources (Frank 1988). Although it may seem that this is a positive effect, the increased food concentration benefits only those species that exploit light sources and could therefore result in altered community structure. Faster-flying species of bats congregate around lights to feed on insects, but other, slower-flying species avoid lights (Blake *et al.* 1994; Rydell and Baagøe 1996).

Changes in competitive communities occur as diurnal species move into the "night light niche" (Schwartz and Henderson 1991). This concept, as originally described, applies to reptiles, but easily extends to other taxa, such as spiders (Frank pers comm) and birds (Hill 1990; Figure 5).

#### Predation

Although it may seem beneficial for diurnal species to be able to forage longer under artificial lights, any gains from increased activity time can be offset by increased predation risk (Gotthard 2000). The balance between gains from extended foraging time and risk of increased preda-

tion is a central topic for research on small mammals, reptiles, and birds (Kotler 1984; Lima 1998). Small rodents forage less at high illumination levels (Lima 1998), a tendency also exhibited by some lagomorphs (Gilbert and Boutin 1991), marsupials (Laferrier 1997), snakes (Klauber 1939), bats (Rydell 1992), fish (Gibson 1978), aquatic invertebrates (Moore *et al.* 2000), and other taxa.

Unexpected changes in light conditions may disrupt predator-prey relationships. Gliwicz (1986, 1999) describes high predation by fish on zooplankton during nights when the full moon rose hours after sunset. Zooplankton had migrated to the surface to forage under cover of darkness, only to be illuminated by the rising moon and subjected to intense predation. This "lunar light trap" (Gliwicz 1986) illustrates a natural occurrence, but unexpected illumination from human sources could disrupt predator-prey interactions in a similar manner, often to the benefit of the predator.

Available research shows that artificial night lighting disrupts predator-prey relationships, which is consistent with the documented importance of natural light regimes in mediating such interactions. In one example, harbor seals (*Phoca vitulina*) congregated under artificial lights to eat juvenile salmonids as they migrated downstream; turning the lights off reduced predation levels (Yurk and Trites 2000). Nighttime illumination at urban crow roosts was higher than at control sites, presumably because this helps the crows avoid predation from owls (Gorenzel and Salmon 1995). Desert rodents reduced foraging activity when exposed to the light of a single camp lantern (Kotler 1984). Frank (1988) reviews predation by bats, birds, skunks, toads, and spiders on moths attracted to artificial lights. Mercury vapor lights, in particular, disrupt the interaction between bats and tympanate moths by interfering with moth detection of ultrasonic chirps used by bats in echolocation, leaving moths unable to take their normal evasive action (Svensson and Rydell 1998).

From these examples, it follows that community structure will be altered where light affects interspecific interactions. A "perpetual full moon" from artificial lights will favor light-tolerant species and exclude others. If the darkest natural conditions never occur, those species that maximize foraging during the new moon could eventually be compromised, at risk of failing to meet monthly energy budgets. The resulting community structure would be simplified, and these changes could in turn affect ecosystem characteristics.

#### ■ Ecosystem effects

The cumulative effects of behavioral changes induced by artificial night lighting on competition and predation have the potential to disrupt key ecosystem functions. The spillover effects from ecological light pollution on aquatic invertebrates illustrates this point. Many aquatic invertebrates, such as zooplankton, move up and down within the water column during a 24-hour period, in a

behavior known as "diel vertical migration". Diel vertical migration presumably results from a need to avoid predation during lighted conditions, so many zooplankton forage near water surfaces only during dark conditions (Gliwicz 1986). Light dimmer than that of a half moon ( $<10^{-1}$  lux) is sufficient to influence the vertical distribution of some aquatic invertebrates, and indeed patterns of diel vertical migration change with the lunar cycle (Dodson 1990).

Moore *et al.* (2000) documented the effect of artificial light on the diel migration of the zooplankton *Daphnia* in the wild. Artificial illumination decreased the magnitude of diel migrations, both in the range of vertical movement and the number of individuals migrating. The researchers hypothesize that this disruption of diel vertical migration may have substantial detrimental effects on ecosystem health. With fewer zooplankton migrating to the surface to graze, algae populations may increase. Such algal blooms would then have a series of adverse effects on water quality (Moore *et al.* 2000).

The reverberating effects of community changes caused by artificial night lighting could influence other ecosystem functions. Although the outcomes are not yet predictable, and redundancy will buffer changes, indications are that light-influenced ecosystems will suffer from important changes attributable to artificial light alone and in combination with other disturbances. Even remote areas may be exposed to increased illumination from sky glow, but the most noticeable effects will occur in those areas where lights are close to natural habitats. This may be in wilderness where summer getaways are built, along the expanding front of suburbanization, near the wetlands and estuaries that are often the last open spaces in cities, or on the open ocean, where cruise ships, squid boats, and oil derricks light the night.

#### ■ Conclusions

Our understanding of the full range of ecological consequences of artificial night lighting is still limited, and the field holds many opportunities for basic and applied research. Studies of natural populations are necessary to investigate hypotheses generated in the laboratory, evidence of lunar cycles in wild populations, and natural history observations. If current trends continue, the influence of stray light on ecosystems will expand in geographic scope and intensity. Today, 20% of the area of the coterminous US lies within 125 m of a road (Riitters and Wickham 2003). Lights follow roads, and the proportion of ecosystems uninfluenced by altered light regimes is decreasing. We believe that many ecologists have neglected to consider artificial night lighting as a relevant environmental factor, while conservationists have certainly neglected to include the nighttime environment in reserve and corridor design.

Successful investigation of ecological light pollution will require collaboration with physical scientists and

engineers to improve equipment to measure light characteristics at ecologically relevant levels under diverse field conditions. Researchers should give special consideration to the tropics, where the constancy of day–night lighting patterns has probably resulted in narrow niche breadths relative to illumination. Aquatic ecosystems deserve increased attention as well, because despite the central importance of light to freshwater and marine ecology, consideration of artificial lighting has so far been limited. Research on the effects of artificial night lighting will enhance understanding of urban ecosystems – the two National Science Foundation (NSF) urban Long Term Ecological Research sites are ideal locations for such efforts.

Careful research focusing on artificial night lighting will probably reveal it to be a powerful force structuring local communities by disrupting competition and predator–prey interactions. Researchers will face the challenge of disentangling the confounding and cumulative effects of other facets of human disturbance with which artificial night lighting will often be correlated, such as roads, urban development, noise, exotic species, animal harvest, and resource extraction. To do so, measurements of light disturbance should be included routinely as part of environmental monitoring protocols, such as the NSF's National Ecological Observatory Network (NEON). Future research is likely to reveal artificial night lighting to be an important, independent, and cumulative factor in the disruption of natural ecosystems, and a major challenge for their preservation.

Ecologists have studied diel and lunar patterns in the behavior of organisms for the greater part of a century (see Park 1940 and references therein), and the deaths of birds from lights for nearly as long (Squires and Hanson 1918). Humans have now so altered the natural patterns of light and dark that these new conditions must be afforded a more central role in research on species and ecosystems beyond the instances that leave carcasses on the ground.

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# LIGHT POLLUTION AND THE IMPACTS ON BIODIVERSITY, SPECIES AND THEIR HABITATS

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## What is ecological light pollution?

Longcore and Rich describe artificial light that alters the natural patterns of light and dark in ecosystems as "ecological light pollution".<sup>7</sup>

Ecological light pollution comprises direct glare, chronically increased illumination and temporary, unexpected fluctuations in lighting. The sources of ecological light pollution are very various and found in nearly every ecosystem in the form of "sky glow, illuminated buildings and towers, streetlights, fishing boats, security lights, lights on vehicles, flares on offshore oil platforms, and even lights on undersea research vessels".<sup>7</sup>

## Impacts of light pollution

Because the study of light pollution is still in its early days the impacts of this problem are not fully understood. While the increased brightness of the night sky is the most familiar of the many effects of light pollution (it is the most obvious and astronomers recognized it many years ago) many other alarming aspects are still unexplored: for example, the fact that light pollution leads to a great wastage of energy. On a global scale, approximately 19% of all electricity used produces light at night.<sup>18</sup> The by-product of electric illumination generated by the burning of fossil fuels, is the discharge of greenhouse gases. These gases are responsible for global warming and the exhaustion of non-renewable resources.

Light pollution produces many other impacts on the environment. Harmful effects involve the animal kingdom, the vegetable kingdom and mankind. While light pollution is eminently detrimental to nocturnal and migratory animals and to animals in flight, it also produces harmful effects on plants.

### IMPACTS ON PLANTS

Plants use darkness in many different ways. The management of their metabolism, their development and their life programmes are affected. Plants measure and react to night length which means the duration of darkness. For this reason short-day plants require long nights. If such a plant is illuminated



Figure 1. © Merlin D. Tuttle, Bat Conservation International, Inc.

temporarily during a long night, it reacts and interprets as if it had experienced two short nights, instead of one long night with a disruption. As a consequence its flowering and developmental patterns possibly will be entirely disrupted: short-day plants normally bloom in the autumn when the day length shortens. They utilise the long nights to start the onset of flowering; and subsequently, as the nights lengthen, the onset of dormancy, which enables them to resist the harshness of winter.<sup>1</sup>

Trees provide entire ecosystems to numerous animal species. They are harmfully affected by light pollution. Trees have to adjust to seasonal alterations, and artificial light hinders them from doing so: various trees are kept from losing their leaves by light pollution. This has a consequence on the animals that depend on trees as their habitat. For instance, birds are prevented from nesting in trees as a result of the surrounding light pollution.

#### *IMPACTS ON ANIMALS*

Life has emerged with natural patterns of light and dark, so disturbance of those patterns influences numerous aspects of animal behaviour.<sup>7</sup> Light pollution can confound animal navigation, change competitive interactions, alter predator-prey relations, and affect animal physiology.

#### *Threats to birds*

The effect of light in the form of fire or lamps attracting migratory and non-migratory birds at night, especially when foggy or cloudy, has been known since the 19<sup>th</sup> century and was and still is used as a form of hunting<sup>7</sup>. The reasons for disorientation of birds through artificial night lighting are not well known. Experts suggest that the navigation of birds using the horizon as orientation for the direction is disrupted by lighting and sky glow<sup>12</sup>.

#### *Lighthouses*

The attraction of lighthouses and ships for birds was first recorded since the first operation in the mid 19<sup>th</sup> century and was the basis of the first detailed records of bird migration.

The number of casualties depends on the location of the lighthouses and was higher on the migration routes on the East Coast of the USA. Early surveys on the coast of British Columbia recorded an annual mortality of over 6,000 birds at 45 lighthouses.

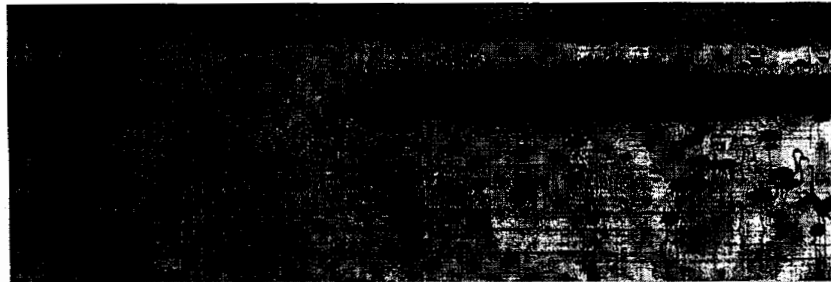


Figure 2. Doñana, World Heritage site. © José María Pérez de Ayala.

The fatalities at lighthouses depend on the type of signal used. Fixed white lights attract more individuals than flashing or coloured lights<sup>5</sup>.

#### Light beams / Ceilometers

The attraction of light beams has been observed since the 1940s when meteorologists installed ceilometers - light beams - to measure the cloud height

especially at airports. In 1999 Bruderer et al. studied the behaviour of birds exposed to a light beam and an X-Band radar. The light beam caused a change in the flight direction up to 15° and a decrease of velocity up to 3m /sec. Approximately 50,000 migratory birds (largest kill ever recorded at a ceilometer) died on October 6-8, 1954 at Warner Robins Air Force Base in Georgia, when a cold front moved over the Southeast<sup>7</sup>.

Filtering the longer wavelength of the lamps used and changing the units from a fixed beam into a rotating one, significantly reduced the number of casualties<sup>12</sup>.

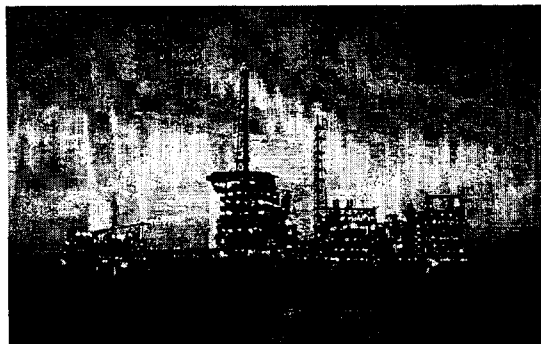


Figure 3. Source: Gabinete Paralelo. "Consejo para el Proyecto Argentino" Foundation.

#### Offshore oil / Gas platforms / Light induced fisheries

Due to the fact that oceans have less artificial light sources compared to terrestrial environments, the effect and range of single artificial lighting is much higher. As a consequence of these circumstances marine birds are highly attracted by these sources. The birds are attracted by the flares of the platforms and can be directly injured or killed by heat, collision and oil; but also indirectly by the trapping effect of the light that leads birds to circle around the light source reducing their energy reserves and making them unable to reach the next shore or decreasing their ability to survive the winter or reproduce. Light induced fisheries use their light to attract fishes and squids but also have an effect on birds. Hooks then can injure these birds<sup>12</sup>.

#### City lights / Horizon glow

The permanent growth of cities and the associated increase in artificial lighting by streetlamps and illuminated buildings has fatal consequences for migratory birds. These mostly nocturnal migratory species are disorientated and attracted by the sky glow which cities produce during the night. This effect arises especially under foggy and rainy weather conditions, with the result that hundreds and even thousands can be injured or killed in one night at one building.

The Fatal Light Awareness Program in Toronto, Canada has recorded data of collisions of birds with man-made structures for over 10 years. They recorded about 160 species of birds as victims of collisions. According to Daniel Klem Jr., biologist at Muhlenberg College in Pennsylvania, more than 100 million birds are affected by collisions

each year in North America and many of the species involved are recognised as endangered species.<sup>20</sup>

To decrease the number of cases several cities (Toronto, Chicago, New York) started "Light Out Programs" to reduce the effect of sky glow and to protect migrating birds.

#### Towers

The growing number and height of telecommunication and broadcasting towers cause a growing number of fatal collisions with migratory birds. These structures sever migration routes, mostly of songbirds.

Two reasons are given for collisions with towers. The first is when birds flying in poor visibility do not see the structure early enough to evade it (blind collision). The second mechanism for mortality arises when there is a low cloud ceiling or nebulous conditions, and lights on a tower refract off water particles in the air creating a lit up array around the tower. Birds lose their stellar cues for nocturnal navigation under these weather conditions. Furthermore, they lose all wide orienting perspective they might have on the landscape because they are flying beneath quite a low cloud ceiling. When passing the illuminated area, it could be that the increased visibility around the tower becomes the strongest cue the birds have for navigation, and as a result they tend to stay in the illuminated space near the tower. Mortality occurs when they fly into the structure and its guy wires, or even collide with other birds as more and more passing birds overcrowd the quite small, illuminated space.<sup>22</sup>



Figure 4. Image of Florida at night showing the extent of light pollution threatening the Everglades National Park, a World Heritage Site and Ramsar wetland, hosting one of the most remarkable biodiversity areas of our planet. Source: P. Cinzano, F. Falchi (University of Padova), C. D. Elvidge (NOAA National Geophysical Data Center, Boulder), 2001. *The first World Atlas of the artificial night sky brightness*. Monthly Notices of the Royal Astronomical Society, 328, 689-707. © Royal Astronomical Society. Reproduced from the Monthly Notices of the RAS by permission of Blackwell Science.

Newer studies show that using rotating or blinking red lights and white strobe lights can reduce the effect of trapping birds at illuminated towers, but there is still work to do to improve the understanding of the whole effect on the migration process<sup>12</sup>.

#### Threats to sea turtles

##### Effect on adult females

Artificial light has several effects on female turtles searching locations for nests and on hatchlings finding the sea. The female turtles avoid illuminated beaches for their nests with the effect that the nests are concentrated on the less illuminated and shaded

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parts. This can cause a selection of a suboptimal nesting habitat or special concentration of nests, with effects on the number and sex ratio of hatchlings produced and higher hatchling mortality.<sup>13,17</sup> The nesting behaviour itself can be affected by many factors. The overall nesting success of sea turtles in Florida is between 50% and 80%. The process can be abandoned when turtles encounter digging impediments, large structures, unsatisfactory thermal cues or human disturbance. After ending the nesting process, the turtles return to the sea. This process can be affected by artificial light. In a few cases, lights from car parks, road lighting and housing developments attract the turtles.

#### Effect on hatchling sea turtle orientation

The hatchlings themselves are affected by the sky glow and direct illumination too. The way that hatchling marine turtles find the sea is based on the fact that the nocturnal horizon over the sea is brighter than that over the land.<sup>10,13</sup> The artificial light of street lamps, houses or sky glow of cities, especially on nights with little or no moon, can dis- or misorientate the hatchlings on their way to the sea. Because of these orientation problems, the hatchlings crawl in the wrong direction where they are threatened by dehydration, predators, and high temperatures after sunrise.

#### Solutions

To minimise the negative effects of artificial lighting, new strategies of light management are necessary. Light must be used more precisely. It should be less intensive and in longer wave-lengths so it is less disruptive to the wildlife. The regulations must be implemented through laws as is already done in most counties in Florida for example.<sup>8,13</sup>

#### *Threats to fish*

Reaction (attraction and avoidance) of fish to artificial light depends on the species but affects their natural behaviour in both ways. There are several studies on the use of artificial light at fish farms and deep-sea fish. Most of the studies show that fish avoid white light sources. Nevertheless, there are species that are attracted by light and this is used to catch them by sport anglers or industrial fisheries.

#### Light attraction method to catch Mukene

Light attraction is widely used by anglers to catch fish in the dark. The FAO reports that fishing with floating lamps is used at Lake Victoria to catch the Mukene using scoop-nets and nets pulled from the shores (beach seines) and from canoes (lampara nets). This method can endanger nursery grounds for immature Mukene, Nile perch and Tilapia because it is used in shallow waters near the coastlines<sup>3</sup>.

#### Salmon farms

Submerged light increases swimming depth and reduces fish density of Atlantic salmon in production cages. These artificial photoperiods are used to postpone sexual maturation and increase growth. Studies in these farms suggest that salmon position themselves in relation to the artificial light gradient to maintain schooling behaviour<sup>6</sup>.

#### Halibut farms

Light used in Halibut farms influences their swimming behaviour. Artificial light influences the swimming depth and the swimming activity: Halibut swim less and grow more. It may be that the fish are particularly sensitive to ultraviolet damage. Evidence of damage (skin lesions, etc.) has been observed in Halibut. This is particularly the case for fish that are acclimatised to indoor conditions, and which are moved out in the spring, when the sun is most intense. Farmers can protect their stock with the use of shade nets.<sup>4</sup>

#### Deep-sea fish

A study of lighting techniques in deep-sea fish observation pointed out that white light disrupts the natural behaviour of deep-sea fish. Observations showed that the "average number of fish appearances on camera was significantly greater under red light than white light"<sup>16</sup>. Reasons are the adaptation of the eyes of deep-sea fishes to the dark environment and the possible damage to eyes by bright lights.



Figure 5. Mainly diurnal, the Madagascan golden frog (*Mantella aurantiaca*) restricts its reproductive activity at night. © G. Orlando

- avoidance and decrease of light pollution. Public opinion would need to be shifted regarding light trespass and "second hand" light, the wastefulness of excessive night lighting and the importance of using the right lighting for the right situation.
- Legislation needs to be developed to support and require dark sky friendly lighting through by-laws, modified engineering standards and building codes<sup>19</sup>.

#### Conclusion

The variety of environmental conditions is important because it contributes to the partition of resources and greater biodiversity. Various natural processes can only happen during the night in darkness. Examples are resting, repairing, celestial navigation, predating or charging of systems. For this reason, darkness has the equal and amendatory functional importance as daylight. It is indispensable for the healthy functioning of organisms and whole ecosystems.

#### Recommendations

- Much more research is needed on the effects of light pollution
- Public and government awareness shall be intensified in view of the value of protection,

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20. The Fatal Light Awareness Program at: <http://www.flap.org>
21. NYC Audubon at: <http://www.nycaudubon.org/NYCASBirdWatch/TabHistory.asp>
22. <http://www.towerkill.com>

Executive Director's Report on  
Monroe Twp Ord O:19-2013  
May 30, 2014 Exhibit #2

2117 Bay Avenue  
Ocean City,  
NJ 08226  
609 398 1934  
March 26, 2014

Pinelands Commission  
15 Springfield Road, P.O. Box 359, New  
Lisbon, New Jersey 08064  
Facsimile (609) 894-7330

Monroe Township Ordinance O:19-2013

Dear Chairman Lohbauer & Pinelands Commissioners:

I am writing to oppose the certification of Monroe Township Ordinance O:19-2013.

If certification is permitted it would be in violation of the Comprehensive Management Plan, which states,

*No sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted in any area.*

Monroe if certified would be allowing lighted signs in the Regional Growth, **Rural Development and the Forest Area** along the Black Horse Pike. Rural Development and Forest Areas are the more environmentally sensitive areas **even** if they are along a highway. Roadways in these areas of townships are dark with not many street lights.

Rural areas of the New Jersey Pinelands have changed rapidly since the 1980s, and certifying Monroe Township's ordinance would further add to their degradation.

I respectfully request that this Ordinance not be certified by the Commission.

Sincerely,



Georgina Shanley



**SIERRA CLUB**  
FOUNDED 1892

**Ocean County Group**

PO BOX 4520, BRICK, NJ 08723  
TEL: [732] 451-9220 FAX: [732] 451-9227  
EM: SIERRACLUBOC@AOL.COM  
WWW.NEWJERSEY.SIERRACLUB.ORG/OCEAN/

New Jersey Pinelands Commission  
P.O. Box 359  
New Lisbon, NJ 08064

27 March 2014

Executive Director's Report on  
Monroe Twp. Ord #O:19-2013  
May 30, 2014 Exhibit #3

**RE: Electronic Signs in the Pinelands**

Dear Members of the Pinelands Commission Staff,

As the Conservation and Vice-Chair of the Sierra Club Ocean County Group I submit the following comments concerning electronic signs within the protected Pinelands region. This issue was raised after a report of a large flashing-sign on the Stockton College Campus was brought to the Commission's attention.

**The Comprehensive Management Plan (CMP) N.J.A.C. 7:50-6.107:**

Mandatory sign provisions throughout the Pinelands states:

- 1 - No signs with sudden, intermittent or rhythmic movement or physical or lighting change
- 2 - No signs with movement or rotation or visual impression of movement or rotation
- 3 - No off site commercial advertising except those advertising agricultural commercial establishments within the Agricultural or Special Agricultural Areas subject to the following: a) Maximum of two signs in any one direction along each road approaching the stand and b) each sign along four lane State or US highways limited to 50 square feet, other roads 32 square feet
- 4 - Off site direction signs may be permitted provided they do not contain advertising and are restricted to the name of the public or private use, and necessary directions

Existing lawful off-site commercial advertising signs as of January 14, 1981 shall be permitted in Regional Growth Areas, Pineland Towns, and some restricted zones of Rural Growth Areas. To the maximum extent practical, the character and composition of construction materials must be harmonious with the scenic values of the Pinelands.

**The CMP N.J.A.C. 7:50 - 6.108 and N.J.A.C. 7:50 - 6.109 state:**

Standards for specific sign types:

- 1 - The CMP provides mandatory provisions for Preservation and Special Agricultural Areas within the Pinelands and guidelines for sign provisions in all other areas as summarized in the following table:

	7:50 - 6.108 Preservation & Special Agr. areas	7:50 - 6.109 All other
Official public safety and information signs	Y	Y
On site advertising the sale or rental of the premises, limited to one sign no more than 12 sq. ft.	Y	Y
On site identification signs for schools, churches, etc., one sign not to exceed 12 sq. ft.	Y	
Temporary political signs limited to 12 sq. ft.	Y	Y

Temporary on and off site civil or social signs, limited to 12 sq. ft.	Y	Y
Trespassing or postings noting private nature of property, limited to 12 sq. ft.	Y	Y
On site professional home occupation, limited to one sign	Y	Y
	12 sq. ft.	4 sq. ft.
On site business or advertising, limited to no more than two signs not exceeding 20 sq. ft. per side with maximum height of 15 feet	Y	Y
New off-site commercial advertising signs may be permitted by certified municipalities in Regional Growth Areas and Pinelands Towns provided that the applicant can demonstrate that for each new sign an existing lawful off site commercial sign has been removed by the applicant	N	Y

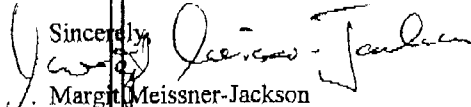
- 2 - Preservation All other & Special Agricultural areas
- Official public safety and information signs
- 3 - One sign no more than 12 sq. ft.

Two examples come to mind:

- a) Monroe if certified would be allowing them in the Regional Growth, **Rural Development and the Forest Area** along the Black Horse Pike. Rural Development and Forest Areas are the more environmentally sensitive areas even if it is along a highway. Roadways in these areas of townships are dark with not many street lights,
- b) Egg Harbor Township is allowing them only in the Regional Growth Area in commercial Zones.

Therefore, according to the CMP: . . . No sign, other than warning or safety signs, which is designed or intended to attract attention by sudden, intermittent or rhythmic movement, or physical or lighting change, shall be permitted in any area. - So ordinances should not be certified.

We thank you for including our comments when you decide this issue; we are all interested in preserving this national treasure, our Pine Barrens.

Sincerely,  
  
 Signed . . . Margit Meissner-Jackson  
 Conservation/Vice-Chair  
 Sierra Club Ocean County

Executive Director's Report on  
Monroe Twp Ord #O:19-2013  
May 30, 2014 Exhibit #4

**From:** Lee Rosenson/Suzanne Levin <suleret@verizon.net>  
**To:** <planning@njpines.state.nj.us>  
**Date:** 3/28/2014 9:06 PM  
**Subject:** Monroe Township Ordinance O:19-2013

Dear Ms. Grogan,

I write to oppose certification of the Subject Ordinance which allows electronic message signs in the Pinelands Forest, Rural Development and Regional Growth areas of the township.

First, I believe the CMP, in Sections 7:50-6.106 and 7:506.107, contains very clear language that prohibits all signs of this type in all areas. I see no reason at all to ignore this forthright language.

Second, I am especially opposed to provisions in the Ordinance that allow placing these signs in the Forest and Rural Development areas of the Pinelands. Light pollution is, I believe, a serious issue. It has deleterious ecological effects and also important negative aesthetic effects. The New Jersey Pinelands is one of the very few places remaining on the eastern seaboard where we and our children and grandchildren can get a reasonably unpolluted view of the small portion of our profoundly majestic universe that is observable from our tiny planet. Let's keep it that way.

Thank you for your kind attention.

Leon M. Rosenson  
53 Gordon Way  
Princeton, NJ 08540



## **RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION**

NO. PC4-14- 21

**TITLE:** Issuing an Order to Certify Winslow Township Ordinance O-2014-006, Amending Chapter 179 (Natural Resources) of the Code of Winslow Township

Commissioner Pickett  
seconds the motion that:

moves and Commissioner Jackson

**WHEREAS**, on April 8, 1983, the Pinelands Commission fully certified the Master Plan and Land Use Ordinances of Winslow Township; and

**WHEREAS**, Resolution #PC4-83-30 of the Pinelands Commission specified that any amendment to Winslow Township's certified Master Plan and Land Use Ordinances be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 (Submission and Review of Amendments to Certified Master Plans and Land Use Ordinances) of the Comprehensive Management Plan to determine if said amendment raises a substantial issue with respect to conformance with the Pinelands Comprehensive Management Plan; and

**WHEREAS**, Resolution #PC4-83-30 further specified that any such amendment shall only become effective as provided in N.J.A.C. 7:50-3.45 of the Comprehensive Management Plan; and

**WHEREAS**, on March 25, 2014, Winslow Township adopted Ordinance O-2014-006, amending Chapter 179 of the Township's Code by extending the terms of all resource-extraction permits issued within the Pinelands Area-portion of the Township to four years; and

**WHEREAS**, the Pinelands Commission received a certified copy of Ordinance O-2014-006 on March 28, 2014; and

**WHEREAS**, by letter dated April 14, 2014, the Executive Director notified the Township that Ordinance O-2014-006 would require formal review and approval by the Pinelands Commission; and

**WHEREAS**, a public hearing to receive testimony on Ordinance O-2014-006 was duly advertised, noticed and held on May 7, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m.; and

**WHEREAS**, the Executive Director has found that Ordinance O-2014-006 is consistent with the standards and provisions of the Pinelands Comprehensive Management Plan; and

**WHEREAS**, the Executive Director has submitted a report to the Commission recommending issuance of an order to certify that Winslow Township Ordinance O-2014-006, amending Chapter 179 of the Code of Winslow Township, is in conformance with the Pinelands Comprehensive Management Plan; and

**WHEREAS**, the Pinelands Commission has duly considered all public testimony submitted to the Commission concerning Ordinance O-2014-006 and has reviewed the Executive Director's report; and

**WHEREAS**, the Pinelands Commission accepts the recommendation of the Executive Director; and

**WHEREAS**, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.



**NOW, THEREFORE BE IT RESOLVED** that

1. An Order is hereby issued to certify that the Ordinance O-2014-006, amending Chapter 179 (Natural Resources) of the Code of Winslow Township, is in conformance with the Pinelands Comprehensive Management Plan.
2. Any additional amendments to the Township's certified Master Plan and Land Use Ordinances shall be submitted to the Executive Director in accordance with N.J.A.C. 7:50-3.45 to determine if said amendments raise a substantial issue with respect to the Comprehensive Management Plan. Any such amendment shall become effective only as provided in N.J.A.C. 7:50-3.45.

**Record of Commission Votes**

AYE NAY NP ABS				AYE NAY NP ABS				AYE NAY NP ABS						
Ashmun	X				Galletta	X				Prickett	X			
Avery	X				Jackson	X				Quinn			X	
Brown	X				Jannarone	X				Rohan Green			X	
DiBello	X				Lloyd	X				Witt			X	
Earlen			X		McGlinchey			X		Lohbauer	X			

Adopted at a meeting of the Pinelands Commission

Date: June 12, 2014

Nancy Wittenberg  
Nancy Wittenberg  
Executive Director

Mark S. Lohbauer  
Mark S. Lohbauer  
Chairman



Chris Christie  
Governor

Kim Guadagno  
Lt. Governor

State of New Jersey  
THE PINELANDS COMMISSION  
PO Box 359  
NEW LISBON, NJ 08064  
(609) 894 7300  
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General Information: [Info@njpines.state.nj.us](mailto:Info@njpines.state.nj.us)  
Application Specific Information: [AppInfo@njpines.state.nj.us](mailto:AppInfo@njpines.state.nj.us)



Mark S. Lohbauer  
Chairman

Nancy Wittenberg  
Executive Director

**REPORT ON WINSLOW TOWNSHIP ORDINANCE O-2014-006,**  
**AMENDING CHAPTER 179 (NATURAL RESOURCES)**  
**OF THE CODE OF TOWNSHIP OF WINSLOW**

May 30, 2014

Township of Winslow  
125 S. Route 73  
Winslow, NJ 08037-9422

**FINDINGS OF FACT**

I. Background

The Township of Winslow is located in eastern Camden County, in the western portion of the Pinelands Area. Pinelands municipalities adjacent to Winslow Township include the Boroughs of Berlin and Chesilhurst and the Township of Waterford in Camden County, the Township of Monroe in Gloucester County, and the Town of Hammonton and Borough of Folsom in Atlantic County.

On April 8, 1983, the Pinelands Commission fully certified the Master Plan and Land Use Ordinances of Winslow Township.

On March 25, 2014, Winslow Township adopted Ordinance O-2014-006, amending Chapter 179 of the Township's Code by extending the terms of all resource-extraction permits issued within the Pinelands Area-portion of the Township to four years. The Pinelands Commission received a certified copy of Ordinance O-2014-006 on March 28, 2014.

By letter, dated April 14, 2014, the Executive Director notified the Township that Ordinance O-2014-006 would require formal review and approval by the Pinelands Commission.

II. Master Plans and Land Use Ordinances

The following ordinance has been submitted to the Pinelands Commission for certification:

- \* Ordinance O-2014-006, amending Chapter 179 of the Code of Winslow Township, introduced on February 25, 2014 and adopted by the Township Committee on March 25, 2014.

This ordinance has been reviewed to determine whether it conforms to the standards for certification of municipal master plans and land use ordinances as set out in N.J.A.C. 7:50-3.39 of the Pinelands Comprehensive Management Plan. The findings from this review are presented below. The numbers used to designate the respective items correspond to the numbers used to identify the standards in N.J.A.C. 7:50-3.39.

**1. Natural Resource Inventory**

Not applicable.

**2. Required Provisions of Land Use Ordinances Relating to Development Standards**

Ordinance O-2014-006 amends Chapter 179 (Natural Resources) of the Code of the Township of Winslow by extending the terms of all resource-extraction permits issued within the Pinelands Area-portion of the Township from two years to four years.

Ordinance O-2014-006 further amends Chapter 179 by providing that all resource-extraction operators shall be required to certify, in writing and on an annual basis, that all mining, restoration, and other activities have been, and continue to be, conducted in accordance with approved permits. Ordinance O-2014-006 further provides that if the Township or the Commission's Executive Director determines that any activity deviates from an approved permit, the operator shall be immediately notified of the deviation. The notice shall state the nature of the deviation; order the action necessary to correct it; and, set forth the date, time and location of a meeting to be held within ten days of the notice, at which meeting the operator shall present all relevant information concerning the deviation and the action taken or to be taken to correct it. The order to take corrective action shall specify any activity which must be immediately ceased to prevent direct or indirect aggravation of the deviation or to avoid a danger to the public health, safety or welfare. Failure to resolve a deviation or to adhere to the terms and conditions of any agreement to resolve a deviation shall constitute sufficient cause for revocation of the permit. Either the Committee or the Executive Director may institute proceedings for revocation of the permit.

In addition to the foregoing, Ordinance O-2014-006 clarifies several other provisions of Chapter 179. Ordinance O-2014-006 provides that the Township's non-refundable application fee of \$500 is applicable not only to new applications for soil removal/resource extraction permits but also to renewal applications. Ordinance O-2014-006 also clarifies that escrow fees collected by the Township Engineer in connection with soil removal/resource extraction are for reviewing said applications, issuing reports thereon, and conducting post-application inspections. Ordinance O-2014-006 provides that the Township Engineer shall inspect all premises for which a soil removal/resource extraction permit has been issued not less than once every two years. However, Ordinance O-2014-006 authorizes the Township

Engineer to conduct such inspections at any time and as often as necessary to ensure compliance with applicable ordinances or permit conditions.

Winslow Township Ordinance O-2014-006 is consistent with the land use and development standards of the Comprehensive Management Plan. This standard for certification is met.

**3. Requirement for Certificate of Filing and Content of Development Applications**

Chapter 179 of the Code includes an extensive listing of required items that must accompany all resource-extraction permit applications, including, by way of example, site plans, topographic maps, soils maps, reclamation plan, grading plans, site analysis, and an environmental impact statement. A Certificate of Filing is required for all applications concerning soil removal/resource extraction within the Pinelands Area. Ordinance O-2014-006 does not affect these application requirements in any way.

These application requirements are consistent with the Comprehensive Management Plan. Therefore, this standard for certification is met.

**4. Requirement for Municipal Review and Action on All Development**

Not applicable.

**5. Review and Action on Forestry Applications**

Not applicable.

**6. Review of Local Permits**

As currently certified, Winslow Township's Code specifies that resource extraction permits shall be limited in duration to a period of two years. Ordinance O-2014-006 extends the duration of these permits from two years to four years.

Section 7:50 6.64(a) of the Comprehensive Management Plan states that "no permit authorizing resource extraction shall be issued for any period exceeding two years unless a program extending the duration of such permits has been established and certified by the Commission." Municipalities wishing to issue permits exceeding two years in duration must incorporate into their land use ordinances certain provisions relating to annual certifications and methods for dealing with deviations from approved permits. As detailed above, Ordinance O-2014-006 adequately incorporates the required provisions into the Township's Code.

Ordinance O-2014-006 is consistent with the provisions of the Pinelands Comprehensive Management Plan relating to the review of local permits. This standard for certification is met.

**7. Requirement for Capital Improvement Program**

Not applicable.

**8. Accommodation of Pinelands Development Credits**

Not applicable.

**9. Referral of Development Applications to Environmental Commission**

Not applicable.

**10. General Conformance Requirements**

Winslow Township Ordinance O-2014-006, amending Chapter 179 of the Code of Winslow Township, complies with the standards and provisions of the Pinelands Comprehensive Management Plan. Therefore, this standard for certification is met.

**11. Conformance with Energy Conservation**

Not applicable.

**12. Conformance with the Federal Act**

Winslow Township Ordinance O-2014-006, amending Chapter 179 of the Code of Winslow Township, complies with the standards and provisions of the Pinelands Comprehensive Management Plan. No special issues exist relative to the Federal Act. This standard for certification is met.

**13. Procedure to Resolve Intermunicipal Conflicts**

Not applicable.

**PUBLIC HEARING**

A public hearing to receive testimony concerning Winslow Township Ordinance O-2014-006 was duly advertised, noticed and held on May 7, 2014 at the Richard J. Sullivan Center, 15C Springfield Road, New Lisbon, New Jersey at 9:30 a.m. Mr. Paul W. Tyshchenko conducted the hearing, at which no testimony was received.

**CONCLUSION**

Based on the Findings of Fact cited above, the Executive Director has concluded that Winslow Township Ordinance O-2014-006 is consistent with Comprehensive Management Plan standards for the certification of municipal master plans and land use ordinances. Accordingly, the Executive Director recommends that the Commission issue an order to Winslow Township Ordinance O-2014-006.

PWT/SRG/CWI



**RESOLUTION OF THE NEW JERSEY PINELANDS COMMISSION**

NO. PC4-14- 22

**TITLE:** To Authorize the Executive Director to Continue to Expend Funds for Fiscal Year 2015 at the Same Level of Expenditures as Fiscal Year 2014 until the Adoption of the Fiscal Year 2015 Budgets

Commissioner Prickett moves and Commissioner Jackson seconds the motion that:

WHEREAS, pursuant to the Pinelands Protection Act, the Pinelands Commission is charged with the continuing implementation and monitoring of the Pinelands Comprehensive Management Plan; and

WHEREAS, it is anticipated that the New Jersey Legislature will appropriate \$2,469,000 to support the Commission's operations during Fiscal Year 2015; and

WHEREAS, the Personnel and Budget Committee recommends Commission adoption of this resolution; and

WHEREAS, pursuant to N.J.S.A. 13:18A-5h, no action authorized by the Commission shall have force or effect until ten (10) days, Saturdays, Sundays and public holidays excepted, after a copy of the minutes of the meeting of the Commission has been delivered to the Governor for review, unless prior to expiration of the review period the Governor shall approve same, in which case the action shall become effective upon such approval.

NOW, THEREFORE, BE IT RESOLVED that the Executive Director is authorized to continue to expend funds during Fiscal Year 2015 at the same level of expenditures as Fiscal Year 2014 until adoption of the Fiscal Year 2015 Budgets by the Commission.

**Record of Commission Votes**

AYE NAY NP ABS				AYE NAY NP ABS				AYE NAY NP ABS																																																			
Ashmun	X			Galletta	X			Prickett	X			Avery	X			Jackson	X			Quinn			X	Brown	X			Jannarone	X			Rohan Green			X	DiBello	X			Lloyd	X			Witt			X	Earlen			X	McGlinchey			X	Lohbauer	X		
Avery	X			Jackson	X			Quinn			X	Brown	X			Jannarone	X			Rohan Green			X	DiBello	X			Lloyd	X			Witt			X	Earlen			X	McGlinchey			X	Lohbauer	X														
Brown	X			Jannarone	X			Rohan Green			X	DiBello	X			Lloyd	X			Witt			X	Earlen			X	McGlinchey			X	Lohbauer	X																										
DiBello	X			Lloyd	X			Witt			X	Earlen			X	McGlinchey			X	Lohbauer	X																																						
Earlen			X	McGlinchey			X	Lohbauer	X																																																		

Adopted at a meeting of the Pinelands Commission

Date: June 12, 2014

Nancy L. Wittenberg  
Nancy Wittenberg  
Executive Director

Mark S. Lohbauer  
Mark S. Lohbauer  
Chairman