

**Memorandum of Agreement**  
between the  
**New Jersey Department of Environmental Protection,**  
**the New Jersey Pinelands Commission, and**  
**the Pinelands Development Credit Bank**

November 4, 1999

**I. Purpose and background:**

This Memorandum of Agreement (MOA) between the New Jersey Department of Environmental Protection (hereinafter "Department") the New Jersey Pinelands Commission (hereinafter "Commission") and the Pinelands Development Credit Bank (hereinafter "Bank") establishes the framework for the "Atlantic White-cedar restoration projects" required by Section 404 of the Federal Clean Water Act, 33 U.S.C. sec. 1344; the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1, -23 within freshwater wetlands within the "Pinelands Area," the boundaries of which are defined at N.J.S.A. 13:18A-11.

Under N.J.A.C. 7:7A-9.23 (hereinafter "General Permit 23"), the owner of an existing cranberry growing operation in the Pinelands (hereinafter "permittee") may apply to the Department for authorization to expand operations within the limits of General Permit 23. If the application is approvable, the Department will issue an authorization to act under the general permit. Within 90 days after a permittee receives notice of authorization to disturb certain higher value wetlands under the general permit (and before beginning permitted activities), the permittee must transfer Pinelands Development Credits (PDCs) to the Department or to its designee. The Department or designee will then sell the PDCs to the Bank, and will use the money received for creation or restoration of Atlantic white-cedar wetlands in the Pinelands.

Under General Permit 23, the Department may issue authorizations to expand cranberry growing operations into freshwater wetlands within the Pinelands Area provided, among other things, that the Department has entered into a MOA with the Pinelands Commission and the Pinelands Development Credit Bank that includes a plan for implementing the Atlantic white-cedar restoration program and which, at a minimum, as provided in N.J.A.C. 7:7A-9.23 (n), identifies one potential site for Atlantic white-cedar restoration; includes a requirement for one-to-one restoration for impacted Atlantic white-cedar acreage; includes success criteria for the restoration program; and ensures that the restoration efforts directed towards Atlantic white-cedar will not adversely impact existing forested wetlands.

The National Parks and Recreation Act of 1978 (P.L. 95-625) and the Pinelands Protection Act, (N.J.S.A. 13:18A-1 et seq.) require that the Pinelands Comprehensive Management Plan (CMP) include measures to protect, promote and enhance agricultural activities and measures to protect, preserve and maintain the quality of surface and ground waters in the Pinelands. The federally approved CMP significantly restricts development in or adjacent to wetlands. However, the cultivation of cranberries and blueberries is among the few uses permitted in wetlands. The Atlantic white-cedar restoration program required by General Permit 23 exceeds the requirements of the CMP by setting up a hierarchy of least and most preferred wetland types for use in cranberry cultivation, by limiting the acreage of wetlands converted during the lifetime of the permit, and by requiring permittees to donate Pinelands Development Credits (PDCs) for disturbances of higher value wetlands, which will result in the permanent protection of important forested and agricultural lands in the Pinelands Area. The CMP (N.J.A.C. 7:50-4.52(c)) provides that the Commission may enter into intergovernmental memoranda of agreement with any agency of the federal, state or local government which authorize such agency to carry out specified development activities without securing individual development approval from the Commission under the CMP.

The legal authority for the Pinelands Bank to purchase the PDCs from the Department is found in the rules governing the Bank at N.J.A.C. 3:42-5.3(b), which authorize the Bank to purchase PDCs to further the objectives of the CMP. Specific relevant provisions authorize such a purchase where the result would be the protection of property which is "of significant ecological or agricultural importance"; where the purchase would provide "a significant and positive example of the PDC Program at work"; or where the purchase otherwise furthers the purposes of the Pinelands Protection Act and the CMP. Purchase of PDCs as part of the Atlantic white-cedar restoration program required by General Permit 23 meets all of these standards.

## **II. Agreements:**

### A. New Jersey Department of Environmental Protection

The Department agrees to accept PDCs from each permittee who is required to contribute PDCs under General Permit 23.

The Department shall sell all PDCs transferred to it under the terms of General Permit 23 to the Bank unless the Bank refuses to purchase the PDCs because it has inadequate funds available for the purchase, or the expenditure of the necessary funds will substantially impair the Bank's ability to carry out its duties and responsibilities with respect to guarantees which have already been extended. In the event of the Bank's refusal to

purchase the PDCs, the PDCs may be sold on the open market at a price equal to or more than the purchase price specified under N.J.A.C. 3:42-5.6.

The Department shall use all proceeds from the sale of the PDCs solely to fund the Atlantic white-cedar restoration projects required under General Permit 23. The proceeds will be deposited into the appropriate fund established for this purpose.

The Department will implement the Atlantic white-cedar project in accordance with the overall plan ("Plan") which is attached hereto as Attachment 1. A list of seven potential sites is incorporated into the plan as Appendix 1. (The list in Appendix 1 provides a description of the location, size and existing characteristics of each site along with the methods most likely to be effective for Atlantic white-cedar restoration at each site.) The Plan includes success criteria for the Atlantic white-cedar restoration program; requires that at least one acre of Atlantic white-cedars be restored for each acre of Atlantic white-cedar wetlands lost and/or disturbed under General Permit 23; and ensures that the Atlantic white-cedar restoration program will not adversely impact existing areas of forested wetlands. Attachment 1 is hereby incorporated into this MOA by reference. The plan contains the following information:

1. the criteria that will be used to select the restoration sites including an indication of the wetland types that are most suitable for Atlantic white-cedar restoration;
2. the method(s) to be used in preparing the sites for Atlantic white-cedar restoration;
3. the measures to be undertaken to ensure the continued viability of the Atlantic white-cedar restoration sites including the ongoing monitoring of these sites and the corrective actions to be taken, such as the replanting of Atlantic white-cedar, where the restoration has not been fully successful;
4. an estimate of the average cost of Atlantic white-cedar restoration per acre across all types of wetlands;
5. the procedures to be utilized to determine if the restoration program is consistent with the standards of the CMP regarding the protection of threatened/endangered wildlife and plant species.

Prior to undertaking Atlantic white-cedar restoration projects in the Pinelands to meet the requirements of General Permit 23, the Department shall follow the procedures outlined in Section III of the Memorandum of Agreement between the Commission and the Department, effective June 23, 1999, attached hereto as Appendix II (hereinafter "June 23, 1999 MOA"). In addition to the items identified in Section III.C., the Department shall provide a statement as to whether the proposed restoration project is being undertaken to meet the requirements of General Permit 23. The 25-acre limits specified in Sections III.B. and C of the June 23, 1999 MOA shall not apply to Atlantic white-cedar restoration projects undertaken to meet the requirements of General Permit 23. Only those restoration projects begun after the effective date of General Permit 23 will be considered as being undertaken pursuant to General Permit 23.

If the Department designates a nonprofit organization or another governmental agency to carry out a specific restoration project that is undertaken in conjunction with General Permit 23, the Department will oversee the PDC transfer and the implementation of the restoration project. The Department will take full responsibility to ensure that the restoration project is carried out in accordance with the CMP and the overall plan. Any private land upon which a restoration project is conducted will be permanently protected from future development by a covenant on the deed, which covenant shall be recorded in the office of the County Clerk or Register of Deeds and Mortgages in the county in which the respective restoration project is located. The covenant shall specify that only those low intensity recreational uses defined in N.J.A.C. 7:50-2.11 that do not require land clearing and those forestry activities necessary to maintain the health of the Atlantic white-cedar swamp shall occur on the parcel. The Department shall ensure that the use of public lands upon which a restoration project is conducted will be limited to those low intensity recreational uses defined in N.J.A.C. 7:50-2.11 that do not require land clearing and those forestry activities necessary to maintain the health of the Atlantic white-cedar swamp.

The Department will work with the Commission to ensure that the first restoration project begins no later than one year after General Permit 23 takes effect.

The Department will prepare an annual report on the status of all restoration projects undertaken pursuant to General Permit 23. The report shall include the following:

1. The number of acres of State open waters authorized for disturbance under General Permit 23;
2. The number of acres of each of the following types of freshwater wetlands authorized for disturbance under General Permit 23:
  - a. Abandoned blueberry fields;
  - b. Abandoned cranberry bogs;
  - c. Abandoned agricultural fields;
  - d. Freshwater wetlands- emergent;
  - e. Freshwater wetlands- scrub/shrub;
  - f. Freshwater wetlands- forested (non-Atlantic white-cedar forest); and
  - g. Freshwater wetlands- forested (dominated by Atlantic white-cedar);
3. The number of acres of Atlantic white-cedar restoration performed as part of the Atlantic white-cedar restoration program required under General Permit 23;
4. The number of acres of land permanently protected through the sale of PDCs to the Bank; and
5. An evaluation of the success of each restoration project undertaken under General Permit 23 as of the date of the report.

No later than October 31 of each year, the Department will make a finding as to whether the pace of impacts under the general permit is proportional to the pace of the Atlantic white-cedar restoration efforts. In making this finding, the Department will consider,

among other factors, whether restoration efforts are making reasonable progress towards the goals in the Department's overall plan for Atlantic white-cedar restoration. The Department shall submit its preliminary annual finding to the Commission by August 15 of each year. If the Department finds that the pace of impacts is proportional to restoration efforts, the Department will publish in the New Jersey Register a finding of continuance of the general permit. If the Department finds that the pace of impacts is out of proportion to the pace of restoration efforts, the Department will publish a finding of suspension of the general permit, which shall remain in effect until the Department determines that the pace of impacts under the general permit has again become proportional to restoration efforts, and publishes a finding of continuance.

If the Department issues a finding of suspension, the Department shall immediately stop issuing general permit authorizations until the Department has reevaluated conditions under the general permit, has determined that the pace of impacts is proportional to restoration efforts, and has once again issued a finding of continuance. If the Department issues a finding of continuance, the Department shall continue to issue authorizations under the terms of the general permit.

#### B. Pinelands Commission

The Commission has provided and will continue to provide the Department with advice regarding the implementation of the Atlantic white-cedar restoration program. The Commission finds that the implementation of the Atlantic white-cedar program set forth in the Plan can be done in a manner that will be consistent with the CMP.

The Commission shall review Atlantic white-cedar restoration projects undertaken to meet the requirements of General Permit 23 in accordance with the procedures outlined in Section III of the June 23, 1999 MOA. The 25-acre limits specified in Sections III. B & C of the June 23, 1999 MOA shall not apply to Atlantic white-cedar restoration projects undertaken to meet the requirements of General Permit 23. The Commission's determination regarding the consistency of the proposed cedar projects with the requirements of the CMP shall be accompanied by a determination of whether the project is consistent with the Plan for Atlantic white-cedar restoration.

The Commission shall review the Department's annual finding of the pace of impacts required by N.J.A.C. 7:7A-9.23 (q) and notify the Department in writing within 30 days after its receipt as to whether the restoration program is making reasonable progress towards the goals in the Department's overall plan for the Atlantic white-cedar restoration program and whether the restoration program is consistent with the overall plan for the Atlantic white-cedar restoration program, the Pinelands Protection Act, and the CMP.

The Commission will convene, at a minimum, an annual meeting to solicit input into the matters set forth in this MOA upon which the Commission provides consultation to the Department. The Commission will invite representatives from USEPA, US Army Corps of Engineers, US Fish & Wildlife Service, US Natural Resources Conservation Service, the Department, and, at the discretion of the Commission, other interested parties.

### C. Pinelands Development Credit Bank

The Bank agrees to purchase the PDCs submitted to the Department or its designee under the general permit. The Bank will purchase the PDCs in accordance with the banking procedures provided for in its regulations (N.J.A.C. 3:42). Although the price of a PDC may vary over time, at present the Bank would pay \$12,600 per PDC, or \$3,150 per quarter PDC in accordance with its regulations.

Notwithstanding the above, the Executive Director of the Bank waives the application requirements under N.J.A.C. 3:42-5.2 (c) 5 and 6 for the Bank's purchase of PDCs under the Atlantic white-cedar restoration program as he finds that the required information is not relevant or necessary for purposes of evaluating and acting upon the application.

The Bank's obligations under this agreement are conditioned upon the availability of funds.

### **III. Effective date and duration:**

This MOA shall take effect upon signature by all of the parties. It shall continue in effect until General Permit 23 is terminated or revoked.

### **IV. Amendment or Modification:**

No modification or amendment to this MOA shall be valid unless it fully complies with N.J.A.C. 7:7A-23(n) and unless it is by written modification or amendment duly executed by all parties to this MOA.

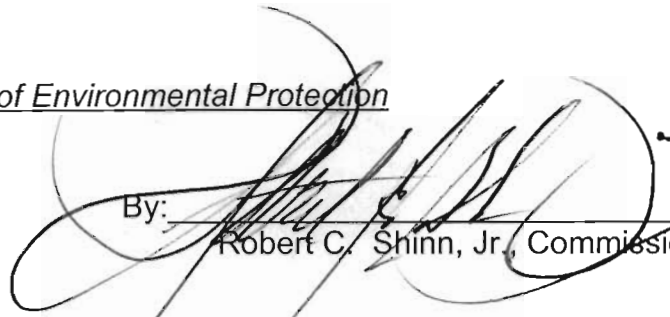
### **V. Severability:**

If any section, subsection, provision, clause or portion of this MOA is adjudged unconstitutional or invalid by a court of competent jurisdiction, such judgment shall be confined in its operation to the section, subsection, provision, clause, or portion directly involved in the controversy in which such judgment shall have been rendered, and it shall not affect or impair the remainder of this MOA.

**VI. Signatures:**

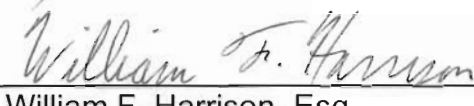
New Jersey Department of Environmental Protection

Date: 3/9/00

By:  \_\_\_\_\_  
Robert C. Shinn, Jr., Commissioner

Pinelands Commission

Date: \_\_\_\_\_

By:  \_\_\_\_\_  
William F. Harrison, Esq.,  
Acting Executive Director

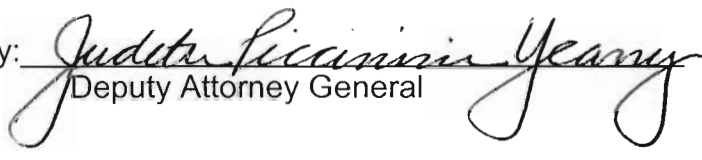
Pinelands Development Credit Bank

Date: \_\_\_\_\_

By:  \_\_\_\_\_  
John Ross, Executive Director

Approved as to form:

Date: 2/23/00

By:  \_\_\_\_\_  
Deputy Attorney General

## Attachment 1

### Overall Plan

1. Site selection—No restoration efforts under this plan will adversely impact existing areas of primarily forested wetlands. The Atlantic white-cedar restoration will be done on a minimum of one-for-one acreage replacement. Further, the Atlantic white-cedar restoration plan may use sites on either public or private lands, as appropriate. Disturbed sites (i.e., fire-damaged) or abandoned bogs or blueberry fields or other similar agricultural lands are preferred as restoration sites rather than sites that may have higher wetlands value. The appendix attached hereto identifies examples of some of these preferred sites, including Bass River State Forest—sites A and B, Lebanon State Forest—Sites A, B and C. Restoration sites on private land will be permanently protected by a covenant on the deed limiting use of such lands to those low intensity recreational uses defined in N.J.A.C. 7:50-2.11 that do not require land clearing and those forestry activities necessary to maintain the health of the Atlantic white-cedar swamp. Restoration sites on public land will be limited to these same uses. Furthermore, logging of Atlantic white-cedar on restoration sites, whether on private or public land, shall be prohibited unless necessary to maintain the health of the Atlantic white-cedar swamp (e.g., to eradicate or prevent further infestation from insects or disease). Additional factors to take into consideration in site selection (and given their proper weight according to the professional judgment of Department staff) which have been taken from a draft of Atlantic white-cedar Ecology and Best Management Practices Manual soon to be published by DEP's division of Parks & Forestry, may include:
  - Former cedar stands: sites that have supported cedar in the past, especially the recent past, have a higher probability for successful restoration. These sites can be identified using either historical knowledge or photographs of the area, or may show signs that cedar was present (stumps, hummock-hollow microtopography, etc.).
  - Minimum site preparation & subsequent management requirements: sites that require minimal site preparation and subsequent management will be the most cost effective overall and will produce favorable results in the shortest amount of time.
  - Soil: restoration projects should be in areas with soils favorable to Atlantic white-cedar. In the Pinelands these may include, but shall not be limited to, Muck, Berryland, and Alluvial soils.
  - Hydrology: sites that currently contain a hydrology that will support Atlantic white-cedar, which hydrology is sustainable over time, are favored. The sites should be neither too dry nor excessively wet.
  - Outside seed source or viable seed bank: sites with an adjacent stand of Atlantic



white-cedar or an intact, viable seed bank have a source of seed for natural regeneration. This may decrease the cost of the restoration project.

- New Jersey ECOMAP: Sites identified as potential sites for Atlantic white-cedar by the New Jersey ECOMAP program may have a higher probability for success. The ECOMAP program in New Jersey is run by the New Jersey Forest Service (DEP), and is based on the USDA Forest Service's ECOMAP, which is a classification and mapping system for showing areas of land and their ecological potentials. These areas are classified and mapped based on a number of factors which may include climate, soils, hydrology, and potential natural communities.
2. Site Preparation—In some cases existing vegetation may need to be mechanically (e.g., drum chopping, brush hogging, root raking) or chemically (e.g., use of herbicide) treated to allow the Atlantic white-cedar seedlings to have a competitive advantage. Furthermore, white-tail deer browsing on Atlantic white-cedar seedlings is one of the major reasons for poor Atlantic white-cedar regeneration. The techniques to discourage deer may, for example, incorporate installing fences of some type. All appropriate forestry management techniques to ensure the success of the restoration project will be employed depending upon the needs at each restoration site and the Department's professional judgment.
  3. Atlantic white-cedar plantings—Restoration sites should be planted with Atlantic white-cedar seedlings on a 6 foot by 6 foot spacing, with a minimum of 1200 seedlings per acre. The Atlantic white-cedar seedlings/saplings must have a survival rate of at least 85% for a period of 10 years beyond the start of the restoration for the planted seedlings/saplings and must have an aerial coverage of at least 60% of the restoration site whether planted or voluntary.
  4. Monitoring—At the end of the first growing season, and each year for a total of 10 years, the Department will prepare a monitoring report on the success of each restoration site. At a minimum, this report will estimate the percent survival of planted Atlantic white-cedar seedlings. Further, a determination of relative Atlantic white-cedar seedling growth rates throughout the site should be done. This can be accomplished by establishing a series of transects or sample plots across the site to collect the data. The reports will be used during the 5-year life of General Permit 23 by the Commissioner as part of his/her yearly evaluation to determine if the general permit impacts are keeping pace with restoration efforts. If the Atlantic white-cedar survival or coverage falls below the target values, the Department will take remedial action to ensure that the site continues to develop as a viable Atlantic white-cedar stand. This remedial action may include the following, depending upon the circumstances at the site: replanting or supplemental planting, control of competing vegetation by either mechanical or chemical means, or other appropriate forestry management techniques.

5. Estimated cost per acre—the Department estimates that the cost of Atlantic white-cedar restoration projects, per acre, across all wetlands types, to be an average of \$2,000. The cost will vary for each site depending largely upon the amount of site preparation needed, more so than on the type of wetland involved.

## Appendix 1

The following is a short narrative describing some potential Atlantic white-cedar restoration sites at Bass River State Forest, Lebanon State Forest and Double Trouble State Park. These represent only a fraction of the potential restoration sites available. This appendix may be amended by adding potential restoration sites identified when the Bass River Atlantic white-cedar plan is completed and the inventories of the Lebanon and Wharton State Forests are completed.

The sites listed below were chosen for their relative ease of access, feasible future protection from wildfire, and current site conditions. All sites are located within the cedar maple swamp ecological land type as areas containing prime Atlantic white-cedar soils. Costs are gross estimates or ranges, including primarily hard costs. Actual final costs for each project may be higher or lower than estimated depending on bidding results, the amount of staff the Forestry Bureau must commit to the projects, and the amount of available volunteer labor.

All sites can also be made available to Cook College, Stockton College or others for further Atlantic white-cedar restoration research. Narratives below are keyed to the enclosed maps.

### BASS RIVER STATE FOREST

#### **Site A**

Stand ID: B7S6I                      Acres: 15.

Site A is an old cranberry bog recently acquired by the State. Included with this site is a two-acre clear-cut that occurred in the adjacent mature Atlantic white-cedar stand. The harvest occurred before the State acquired the land. The majority of the bogs consist of grasses and cranberry. The areas closest to the mature cedar stand are pioneering back into maple mostly with pine and some cedar. All are sapling size. A shrub layer of blueberry, laurel and inkberry holly is starting. The clear-cut area (about five years old) is regenerating back into shrub. Heavy deer browsing is evident. Soils are a mixture of muck and alluvial with sphagnum moss present extensively. No overstory. Access is very easy.

Prescription: Control the flow of water by patching a dike in one spot and collapsing two sluice boxes. Herbicide the woody competition by ground application spot spraying. Plant and fence.

Estimated Cost: \$13,500

Research: Good potential to research the conversion of old bogs back into Atlantic white-cedar.

### **Site B**

Stand ID: B7S4H                  Acres: 31

As a result of the 1977 wildfire, this site has very little overstory. The overstory that is present is red maple and pitch pine. The site consists mostly of a shrub layer of blueberry, laurel and inkberry holly. Islands of upland occur throughout. Soils are a mixture of muck and alluvial sand with extensive sphagnum moss. The organic matter in the soil could have burned in the 1977 fire. Atlantic white-cedar regeneration is abundant on the southern one-third of the site next to adjacent mature cedar stands. This regeneration averages three to four feet in height and looks stressed. Several deer browse on the regeneration.

Prescription: Herbicide and plant the northern two-thirds of the site. Fence the whole site.

Estimated Cost: \$26,000

Research: Good potential to regenerate areas devastated by wildfire. Also, may provide data on cedar regeneration in areas where the organic matter has been burned.

## **LEBANON STATE FOREST**

### **Site A**

Acres: 13

This is an old harvest site with some areas of adequate cedar regeneration but the majority of the area contains inadequate regeneration. Grasses and sedges with pockets of sapling size hardwoods occupy the site but the primary competition is deer browsing.

Prescription: Herbicide and fencing.

Estimated Cost: \$6,500

### **Site B**

Acres: 11

This area is an old abandoned blueberry field that most likely was previously cedar. Area contains shrubs, primarily blueberry with scattered cedar, pitch pine and red maple saplings up to small poles. Access to the area is good.

Prescription: Mechanical site prep/slashing, herbicide, planting and fencing.

Estimated Cost: \$12,100

### **Site C**

Acres: 80

Area may have been part of an old reservoir system. Within the 80 acres there is a range of sites from shrubs with scattered cedars to mixed pole sized swamp hardwood. Additional stand delineation and specific project proposals dividing the area into workable units will be needed, but should not be considered a limiting factor.

Prescription: Some sites need only herbicide and fencing, while others need more extensive work including mechanical site prep.

Estimated Cost: \$500 to \$2,000 per acre (depending on site)

## **DOUBLE TROUBLE STATE PARK**

### **Site A**

Acres: 12

An old harvest site captured by shrub growth with scattered cedar being suppressed.

Prescription: Herbicide only and observe site for two to three years. Fence if and when necessary.

Estimated Cost: \$1,200

## **Site B**

Acres: 11

This was an old cedar stand that was destroyed by fire and has failed to regenerate into cedar. The area has been taken over by shrubs and grasses.

Prescription: Herbicide (or possibly prescribed burn) plant and fence.

Estimated Cost: \$11,000+/-

## **Appendix II**

**(June 23, 1999 MOA Attached Hereto)**