Michigan Forest Carbon Offset and Trading Program

DRAFT Enrollment Instructions

December 2006

The Delta Institute
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Chicago, Illinois
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http://www.delta-institute.org

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I. Program Summary

The Michigan Forest Carbon Offset and Trading Program is a joint project of the State of Michigan Department of Natural Resources and the Delta P2/E2 Center. The program allows landowners to earn revenue through the sale of green house gas emissions credits from carbon sequestered on forested lands that are managed working forests.

Michigan has between 10 and 13 million acres of private forest lands. Small commercial and non-commercial forest owners are a major part of the state's economy and natural resource base. These landowners need incentives to continue the management of their holdings through sustainable forestry practices. The State of Michigan is addressing this issue through the work of the Forest Stewardship Program, the Forest Land Enhancement Program, the Landowner Incentive Program, partnerships with NRCS and the Farm Bureau, forestry and forest owner trade groups, and the Office of Forest, Fire and Minerals within the Michigan Department of Natural Resources (MDNR).

Forest owners provide a major public benefit by managing land that sequesters carbon. The rise of carbon credit trading has opened new financial markets for forest owners. However, the complexities and cost related to entering these markets may prove a barrier to participation. MDNR and the Delta P2/E2 Center have developed the Michigan Forest Carbon Offset and Trading Program to assist working forests to participate in the carbon market.

The Delta P2E2 Center was formed by the Delta Institute – a 501 (c) (3) non profit organization – to provide technical assistance and financing for pollution prevention and energy efficiency measures. Included in this work are carbon sequestration and offset projects. (See www.delta-institute.org and www.p2e2center.org). The Delta P2E2 Center is a member of the Chicago Climate Exchange (CCX) and is an approved offset aggregator. As an aggregator, the Delta P2E2 Center has the authority to sell verified carbon credits on the CCX trading platform on behalf of projects owners. CCX is a voluntary, yet legally binding, carbon trading exchange whereby members are obligated to reduce their carbon emissions every year. This is achieved through a combination of emissions reduction programs at a member's facility and through the purchase of carbon offset credits. Eligible offset credits include agricultural practices such as conservation tillage and grass planting, methane digesters, and forestry credits. More information on the CCX can be found at www.chicagoclimatex.com.

II. How the Program Works

The Delta P2E2 Center will assist Michigan working forests access the carbon markets through the CCX. Once a baseline is established for the carbon stocks for the enrolled forest, a growth and yield model is used to calculate annual carbon sequestration factors that are applied per acre of forest enrolled. Annual carbon credits are then assigned for the enrolled forest. These credits are aggregated and sold on the CCX trading platform by the Delta P2/E2 Center on behalf of the forest land owner.

The steps of the process include:

1. Enroll the property with the Delta P2/E2 Center. The forest land owner fills out an enrollment application to indicate interest in participating in the program and provide information on the project. In order to enroll, a landowner must have a Forest Stewardship plan in place, or have made arrangements to have the Forest Stewardship plan completed in conjunction with the required cruise.

2. Establish the carbon baseline. In order to establish a carbon sequestration factor for the enrolled forest, a carbon baseline must be established. This involves a cruise of the forest to inventory species, age, and density. Data from the cruise is used to run a CCX-approved model to determine baseline and establish a carbon sequestration factor.

3. Update data base with information on changes in the forest. Harvest, reforestation, catastrophic loss, and change in ownership data are provided annually to update the carbon baseline on an annual basis.

4. Verify carbon credits. A third-party verifier, approved by CCX, verifies the carbon value set for the enrolled property.

5. Credits sold on CCX trading platform. Once the credits are verified, they are eligible for sale to CCX members. The Delta P2E2 Center pools the credits into tradable quantities and sells on behalf of the forest landowners. Carbon credits are sold annually beginning one year after the carbon baseline is established.

6. Funds distributed to forest landowners. After the credits are sold, funds are distributed to forest landowners, minus fees. The fees include a $.14 per ton trading fee charged by CCX, and a 10% aggregation fee applied to the gross carbon revenue charged by the Delta P2/E2 Center.

III. Eligible Projects

Forestry projects that can be enrolled fall into either of the following categories: small non-industrial working forests; and afforestation and reforestation projects. The eligibility requirements for each are summarized as follows:

A. Small Non-Industrial Working Forests

Small non-industrial working forests meet all the following criteria:

- Forests actively managed for tree harvesting, habitat, conservation, etc.
- Forests that participate in some stewardship certification program, such as:
    - Sustainable Forestry Initiative (SFI)
    - Forest Stewardship Program (FSP)
    - Certified Tree Farm Group Members
    - Michigan Forest Stewardship Plan (FSP)
    - Forest Land Enhancement Program (FLEP)
    - Forests that are under conservation easements
    - Forests under the Qualified Forestland Act

Requirements for participation include:

- A Forest Stewardship Plan must be in place
- An inventory that establishes the baseline of carbon stock determined through field work that meets the specified criteria in Attachment D.
- Annual provision of data on changes in carbon stocks based on growth, harvesting, planting, catastrophic events, etc.
- Annual verification.
- A letter indicating commitment to maintain carbon stocks in forestry through the implementation of an approved forest management plan..

B. Afforestation/Reforestation Projects

Afforestation and reforestation project include:

- Afforestation or reforestation projects initiated after 1989
- Land in the Forest Land Enhancement Program (FLEP)
- Land in the Conservation Reserve Program (CRP) or Conservation Reserve Enhancement Program (CREP)
- Land under long-term protection, such as:
    - Conservation easement
    - Long-term commitment to maintain carbon stocks in forestry
    - Land listed under the Qualified Forest Property Act (PA 378 of 2006)

Requirements for participation include:

- Inventory of cover type and age based on afforestation/forestation plans, or a cruise as specified in Attachment D.
- Sequestration factors will be determined based on CCX or other approved look-up tables.

- A letter indicating commitment to maintain carbon stocks in forestry through the implementation of an approved forest management plan..

IV. Technical Assistance

The Michigan Department of Natural Resources has made available a limited revolving Technical Assistance Pool to assist working forests cover the up front costs of preparing the initial inventory. The inventory applies to working forest projects only, not afforestation or forestation projects.

The Delta P2/E2 Center will manage the Technical Assistance Pool and front-fund the on-site cruise costs necessary to create the inventory. The cost of the cruise and inventory will be deducted from the sale of carbon credits to replenish the Technical Assistance Pool. A Forest Stewardship Plan is required to access the Technical Assistance Pool as well as a signed Exchange Forest Offset Contract (See Attachment C).

The process for accessing the Technical Assistance Pool involves the following steps:

1. The landowner indicates interest in the Technical Assistance Pool on the enrollment application.

2. The landowner hires a professional forester as provided through the Society of American Foresters Certified Forester program, a qualified Forest Stewardship Plan Writer with the Michigan Department of Natural Resources, a Michigan Registered Forester, or membership in the Association of Consulting Foresters to conduct the cruise and develop the inventory per the inventory guidance (see Attachment D).

3. The landowner and the Delta P2/E2 Center enter into a Technical Assistance contract wherein the Delta P2/E2 Center agrees to pay the cruise and inventory costs and the landowner agrees to allow the Delta P2/E2 Center to deduct the cruise costs from the sale of carbon credits associate with the landowner's forest.

V. Enrollment Checklist

Following is the list of items necessary to effectively enroll working forest projects as well as afforestation and reforestation projects. Copies of the forms and contracts are can be found in the attachments.

Item	Small Non-industrial Working Forests	Afforestation/ Reforestation
Enrollment Application	✓	✓
Signed Exchange Forestry Offset Contract (XFO)	✓	✓
Property level forest inventory	✓	Maybe (1)
Forest stewardship Plan	✓	
Maps of enrolled land	✓	✓
Copy of CRP or CREP contracts, if applicable		✓
Management Plan (harvesting/planting)	✓	**Maybe (2)**
Documentation of the quantity of trees involved in the project, acreage, description of included tree species and their age, size and planting density at the time of project registration such as a Tree/Seedling Invoice and/or Conservation Plan.		✓
Long term commitment to maintain carbon stocks in forestry through one of the following • Copy of a Conservation Easement or • Letter of intent stating that the land planted in trees will remain forested • Forest Stewardship Plan including an agreement to manage the forest land according to the plan • Copy of agreement with FLEP	✓	✓

(1) CCX requires property level forest inventory for any afforestation/forestation projects in excess of 12,500 metric tons.
(2) Affoestation/Reforestation under FLEP requires a FSP plan.

VI. Contact Information

For copies of this material, including enrollment forms and contracts, visit:

www.website.org

For questions on enrollment, aggregation, and technical assistance, contact:

Todd Parker
Associate
Delta P2/E2 Center
600 West St. Joseph, Suite 10
Lansing, MI 48933
(517) 482-8810
tparker@delta-institute.org

Bill Schleizer
Associate
Delta Institute
53 West Jackson Blvd., Suite 230
Chicago, IL 60604
(312) 554-0900 Ext. 24
wschleizer@delta-institute.org

For questions on Forest Stewardship Plans, contact:

Debra Huff, CF
State Forest Stewardship Coordinator
Forest, Mineral, and Fire Management
Michigan Department of Natural Resources
P.O. Box 30452
Lansing, MI 48909-7952
(517) 335-3355
huffd@michigan.gov

All enrollment applications must be mailed to:

Michigan Forest Carbon Program
C/O Delta P2/E2 Center
53 West Jackson Blvd., Suite 230
Chicago, IL 60604

Attachment A: Frequently Asked Questions

What is the Chicago Climate Exchange?

The Chicago Climate Exchange (CCX) is North America's only, and the world's first, greenhouse gas emission registry, reduction and trading system for all six greenhouse gases.[1] CCX is a self-regulatory, rules based exchange designed and governed by CCX Members. Members make a voluntary but legally binding commitment to reduce greenhouse gas emissions.

What are forestry carbon offset credits?

Exchange forestry offset credits (XFOs) are carbon credits issued to forestry projects registered with the exchange. XFOs are issued on the basis of increases in carbon stocks or avoided deforestation, quantified in metric tons of carbon dioxide (CO_2) equivalent realized during the project period.

How does the sale of forestry carbon offset credit on the CCX® reduce emissions of green house gases?

Members of the CCX are legally bound to reduce emissions of greenhouse gases in accordance with the CCX rules. The CCX rules are based on cap and trade emissions reduction strategies similar to the U.S. EPA sulfur dioxide trading program. Cap and trade programs require participating organizations to reduce their emissions by a fixed percentage below a baseline before they are allowed to offset their emissions with credits. The fact that members are required to obtain reductions through changes to their operations guarantees that real emissions reductions will occur.

By the end of December, 2006 all CCX Members will have reduced direct emissions 4% below a baseline period of 1998-2001. From January 2007 through December 2010, Members will be required to reduce greenhouse gas emissions 6% below baseline. Of the total 6% required reductions, members must achieve at least 3% of the reductions from changes to facility operations. The remaining 3% required reductions may include purchases of carbon offsets.

What forestry practices are eligible for the program?

Eligible forestry practices include:

> **Forestation:** Forestation projects includes afforestation or reforestation initiated on or after January 1, 1990, on land not forested, or on forest land that had been degraded or unforested on December 31, 1989. The quantity of carbon credits (XFOs) to be issued to a CCX-registered forestry project shall be based on the annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) on eligible sites included in the project during years the 2006, 2007, 2008, 2009 and 2010.

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[1] The six types of greenhouse gases covered under global warming policies and in trading programs are: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs).

Non-Industrial Working Forests: Projects in the U.S. involving working forests, forested land that is harvested in accordance with a forestry management plan that is part of a CCX-approved forestry management planning program may earn XFOs. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the net annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) based on the results of a carbon inventory conducted in accordance with Attachment D and application of the NE-TWIGS model, or other CCX approved method, to calculate stored carbon.

Conservation Lands: Projects in the U.S. involving conservation lands, forested land that has documentary evidence of the legal protection status of forest parcels that is part of a CCX-registered project. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the net annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) based on the results of the carbon inventory conducted in accordance with Attachment D and application of the NE-TWIGS model, or other CCX-approved method, to calculate stored carbon.

What is the enrollment process?

The first step to enrolling eligible lands in the Michigan Forest Carbon Offset and Trading Program is to fill out an enrollment application, send a copy of your approved Forest Stewardship Plan, an agreement that you will manage your forest land sustainably according to your management plan, and enter into a forestry offset contract with the Delta P2/E2 Center. As the project owner, you would then work closely with the Delta P2/E2 Center to determine whether you have current and sufficient data to develop an inventory, or whether a property level inventory is required. The property level inventory will involve a cruise of your property based on the guidance presented in Attachment D.

Once the inventory has been completed, the Delta P2/E2 Center will enter the information into a proprietary database and run a growth and yield model to determine the carbon baseline and the next year's projected carbon sequestration rates for the stand. The carbon potential resulting from the growth and yield model will determine the tons of carbon available to trade on the CCX. Because only the net annual increase in carbon for the stand is allowed to be traded on the CCX, as predicted by the model, carbon credits will be traded 12 to 14 months after the inventory has been completed. Prior to trading, a third party verifier will verify that the inventory, database, and growth and yield model have been accurately applied. Once the verification is completed and approved by the CCX, they are eligible for sale to CCX members. The Delta P2/E2 Center will pool the credits into tradable quantities and sell them on behalf of the forest landowners. After sale, the funds will be distributed back to the landowners minus fees.

As the project owner, you will be required to provide the Delta P2/E2 Center with yearly updates to the stand, such as new tree planting, harvesting, or catastrophic loss (see Attachment E). The Delta P2/E2 Center will use this information to update its database and re-run the growth and yield model. The growth and yield model will be rerun on a yearly basis in order to establish the next year's available carbon.

Who conducts the property level inventory?

The landowner hires a professional forester as provided through the Society of American Foresters Certified Forester program, a qualified Forest Stewardship Plan Writer with the Michigan Department of Natural Resources, a Michigan Registered Forester, or membership in the Association of Consulting Foresters to conduct the cruise and develop the inventory per the inventory guidanceThe data that results from the inventory is managed by the Delta P2/E2 Center. Property owners will have access to the data from the inventory.

What are the participation fees?

The fees to the forest landowner to participate in the program are:

1. **Inventory Development:** If you do not have an adequate inventory, one will have to be developed. If you are having a plan written, you may be able to work with your professional plan writer to incorporate this inventory into the plan. The responsibility for this cost lies with the landowner, but you can access the Technical Assistance Pool to have the property level inventory costs front-funded.
2. **Aggregation Fee:** A 10% aggregation fee is collected by the Delta P2/E2 Center to cover the program operating costs, data management, and modeling. The aggregation fee is applied to the gross revenues from the sale of carbon offset credits.
3. **CCX Transaction Fee:** The CCX charges a fee of $0.14 per metric ton of carbon trades.

What is the Technical Assistance Pool?

The Michigan Department of Natural Resources has made available a limited revolving Technical Assistance Pool to assist working forests cover the up front costs of preparing the initial inventory. The inventory applies to working forest projects only, not aforestation or forestation projects.

The Delta P2/E2 Center manages the Technical Assistance Pool and front-funds the property level inventory costs involving an on-site cruise to create the inventory. The cost of the cruise and inventory will be deducted from the sale of carbon credits to replenish the Technical Assistance Pool. A Forest Stewardship Plan is required to access the Technical Assistance Pool as well as a signed Exchange Forest Offset Contract.

What are the yearly reporting requirements?

Participating landowners will be required to submit yearly update reports to the Delta P2/E2 Center in order for the P2/E2 Center to update the growth and yield model for the enrolled acreage and calculate the carbon yields. This information will be shared with the Michigan Department of Natural Resources. Yearly reporting requirements are presented in Attachment E

Who will verify my practices and when? How frequently?

A third party verification firm, approved by the CCX, that is knowledgeable about forestry practices and growth and yield models will conduct the verification for medium and large size forestry projects. Medium projects are those forestry projects that sequester between 2,000 and

12,500 metric tons of carbon per year. Large projects sequester more than 12,500 metric tons of carbon per year. Verification will consist of a review of the forest carbon inventory data and application of the growth and yield model. In a few instances, an in-field verification may be conducted.

Small projects, projects that sequester less than 2000 metric tons of carbon per year, will not require third party verification; however, project documentation and updates will be subject to inspection CCX. The costs of verification are paid by the Delta P2/E2 Center from the aggregation fee.

When will I be paid and how frequently?
Payments are typically made once per year after the verification process has been completed and the carbon credits have been sold on the CCX. The first payment will be made 12 to 14 months after the forest carbon inventory has been completed in order to allow for tree growth.

What are the consequences if I don't continue sustainable forestry management practices until the end of the contract period?
The contract contains stipulations for non-compliance with the forestry management plan. Essentially, non-compliance with the contract would require the project owner to return a quantity of the carbon credits for the project years or pay an amount equal to the cost of the credits. Additionally, the project owner may not be allowed to further participate in the CCX.

What is the Reserve Pool?
The Reserve Pool is included in the XFO contract. CCX holds back 20% of the credits you are allocated to compensate for unexpected carbon losses on your property. This 20% is sold on your behalf at the end of the contract period.

What happens if there is a net loss in carbon stocks due to harvesting or unanticipated catastrophic events?
If the models show a decrease in net carbon stocks due to harvesting or unanticipated catastrophic events within the contract period, CCX will deduct credits from the Reserve Pool to compensate. You will be required to either purchase sufficient offsets to replenish the reserve pool, or replace the credits from carbon management on your property at a rate of 1.2 credits for every 1 credit cancelled in the pool.

Can I cancel my contract?
The contract can be cancelled by mutual agreement between the Delta P2/E2 Center and the project owner.

Attachment B: Enrollment Worksheet

Please make additional copies as needed.

Enrollment Worksheet
Delta P2/E2 Center

Working Forests

Seller: Date: Contract #:

Address: City/State/Zip:

Phone: Fax: Email:

Acreage Information						
Stand or Tract No.						
Acres in Stand/Tract						
Sustainable Management Plan (Y/N)						
Harvesting/Planting Management Plan (Y/N)						
Easement (Y/N)						

Land Information						
Land Title Holder						
County						
Township (Name)						
Description (e.g. SW1/4 of NE1/4)						
Section No.						
Township /Range (Numerical)						
Desciption of Exempt area, if any						

Name of Forester:_____ Certification Number:_____

Enrollment Worksheet
Delta P2/E2 Center

Working Forests

	Yes	No
Do you have a map of your tracts?		
If yes, is the map digitized?		
Is yes, what format.		
Do you have an inventory?		
Does the inventory meet the Property Level Inventory Guidance?		
If yes, when was the inventory prepared?		

Attachment C: Exchange Forestry Offset Contract

Delta P2/E2 Center
c/o The Delta Institute
53 W. Jackson Blvd. Suite 230
Chicago, Illinois 60604

Contract No._____
Michigan Forestry

APPLICATION FOR PARTICIPATION IN CHICAGO CLIMATE EXCHANGE FORESTRY OFFSET POOL
And
CREDIT SALE CONTRACT for EXCHANGE FORESTRY OFFSETS (XFOs)

Seller_____Phone_____ Date_____

Address_____

City/State/Zip_____

I, _____, hereby apply for registry of Exchange Forestry Offsets (XFOs) with the Chicago Climate Exchange (CCX) for the years 2006-2010 on property that I own or control. I hereby attest that I do hold full legal title to the Greenhouse Gas mitigation rights registered as CCX Offsets that are associated with the facilities and sites included in the registered project. I hereby attest that the forest project lands are being managed in a sustainable manner, in accordance with a n approved Forest Stewardship plan , for the long-term goal of maintaining forest stock and thereby contributing to the long-term storage of atmospheric carbon in accordance with the CCX terms of participation and that, if applicable, I will provide documentary evidence of the legal protection status of forest parcels included in a CCX-registered project. I hereby attest that the project is in the U.S. and involves forestation (which includes afforestation or reforestation), forest enrichment, via plantings and/or natural regeneration and/or selective timber harvesting in accordance with a Forest Stewardship management planning program. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) on eligible sites included in the project during years the 2006, 2007, 2008, 2009, and 2010. I further agree that I will abide by the rules of the CCX as they pertain to XFOs and to the conditions for Pool participation as set forth in this Agreement.

Signed_____ Date_____ SS#_____

Purchaser agrees to buy and seller agrees to sell and deliver to purchaser free from liens and encumbrances at 53 W. Jackson Blvd., Suite 230, Chicago, Illinois the rights to the Exchange Forestry Offsets (XFOs) created during the years 2006 through 2010 from the projects described in the enrollment application attached to this contract.

Seller warrants that the XFOs covered by this contract comply with all rules of the Chicago Climate Exchange. In the event that the project fails to meet these requirements, all XFOs from such land shall be null and void and any payments for XFOs delivered prior to January 1, 2011 shall be repaid subject to interest and penalties as provided in this agreement.

***The transfer price of the XFOs covered by this contract shall be the sales price as determined by sale through the Chicago Climate Exchange less an 10% service fee.**

Sale of XFOs covered by this contract shall be at the sole discretion of the Purchaser, however all XFOs shall be priced no later than June 30, 2011. Payment for XFOs covered by this contract shall occur no later than 30 days after pricing of the XFOs through the Chicago Climate Exchange. The parties to this contract hereby agree that the title to the XFOs, calculated on a yearly basis, shall be automatically delivered to the Purchaser in accordance with a pre-determined delivery schedule to calculate and transfer yearly carbon stocks from the enrolled lands. By signature hereto, Seller irrevocably conveys title to the XFOs as of the date listed in the pre-determined delivery schedule. Seller further warrants compliance with the terms and conditions contained in the Agreement for the period from the date of signing through January 1, 2011.

Seller's Signature	Date	Purchaser's Signature Delta P2/E2 Center c/o Delta Institute	Date
Printed Name		Printed Name	

Terms and Conditions

CCX Offset Project Terms and Conditions: By registering a project with CCX, each project owner agrees to and acknowledges the following Terms and Conditions in relation to the project and the Exchange Offsets issued by CCX:

1. The enrolled project meets all applicable eligibility rules of the Chicago Climate Exchange.
2. CCX will issue to the CCX Registry account of the project owner or its designated aggregator a quantity of Exchange Offsets that conforms to the applicable CCX Rules.
3. Each sale of Exchange Offsets executed through the Chicago Climate Exchange shall represent a complete transfer of all legal rights associated with the mitigation of greenhouse gases that relate to the quantity and time periods associated with the Exchange Offsets that are established through fulfillment of the Terms of this contract.
4. The project owner or its CCX-registered aggregator may sell or retain the Exchange Offsets earned under the provisions of this agreement.
5. The project owner shall retain full legal ownership of all greenhouse gas mitigation rights that may accrue: (a) on lands or via activities not included in the CCX-registered project; (b) in excess of the quantity of Exchange Offsets issued by CCX to CCX-registered projects; (c) before or after the years 2006 through 2011 for the CCX- registered project.
6. CCX makes no warranty as to the marketability or market value of CCX Exchange Offsets.
7. Each project owner, and, when applicable, its aggregator, is required to periodically submit a signed project report that confirms conformance with the terms herein. Representatives of CCX may conduct on-site inspection of registered projects and related documents. Each project owner agrees to provide access in such cases in a prompt and cooperative manner. All CCX offsets projects and project reports and verification reports are subject to inspection and audit by the provider of regulatory services designated by CCX and by other independent experts as may be engaged by CCX.
8. CCX may request additional information and/or access to registered projects for the purpose of advancing understanding of greenhouse gas mitigation projects. Project owners may decline such access without penalty. In no cases shall research findings cause a reduction in the quantity of Exchange Offsets to be issued to a registered project.
9. Failure to conform to the rules provided herein may result in termination of enrollment in CCX and prohibition from all further participation in CCX.

CCX Eligibility Requirements: All CCX-eligible forestry offset projects that produce less than 12,500 metric tons CO_2 equivalent of Exchange Offsets per year must be registered through a CCX-registered aggregator. Projects that are represented in CCX by an Aggregator are referred to as "pooled projects". The "pool" refers to the multiple projects represented by the Aggregator. Each aggregator is assigned a CCX registry account which will hold all offsets issued to projects it represents. Aggregators shall also be Authorized Traders in the CCX Trading Platform for such offsets. Aggregators shall be responsible for receiving from individual projects the CCX-required project reports, and for submitting to CCX summary reports of projects they represent. The terms of the business and legal relationships between aggregators and project owners are left to the discretion of those parties.

Verifier: Is a technically expert entity that is approved by CCX to conduct verification of CCX Exchange Offset projects. CCX Forestry Pool participants agree that a CCX-approved verifier may have access to the land and facilities covered by this contract and to conduct activities to verify CCX Exchange Offsets.

Offset Issuance: CCX-eligible greenhouse gas mitigation projects can be recorded in the CCX Registry and will be issued Exchange Offsets on the basis of mitigation tonnage realized during the years 2006, 2007, 2008, 2009 and 2010. All offset project mitigation effectiveness will be quantified on the basis of metric tons of CO_2 equivalence. Each Exchange Offset will represent one hundred metric ton of carbon dioxide (CO_2) and will be identified by annual vintage.

Vintage: The vintage of an instrument is defined as the first year the designated instrument may be used for compliance with the CCX emission reduction schedule, or, as applicable, the CCX electricity purchase reduction schedule.

Trading Authority: Delta P2/E2 Center shall have sole authority to access the CCX Trading Platform and Registry account(s) holding the offsets issued to projects it represents and to execute sales on the CCX electronic trading platform on behalf of project owners and distribute sales proceeds to project owners in accordance with the terms stated in this contract.

Forestation: Projects in the U.S., Canada, Brazil and Mexico involving forestation (which includes afforestation or reforestation) and forest enrichment, via plantings and/or natural regeneration initiated on or after January 1, 1990, on land not forested, or on forest land that had been degraded or unforested on December 31, 1989, may earn XFOs. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) on eligible sites included in the project during years the 2006, 2007, 2008, 2009 and 2010.

Working Forests: Projects in the U.S. involving working forests, forested land that is harvested in accordance with a forestry management plan that is part of a CCX-approved forestry management planning program may earn XFOs. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the net annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) based on the results of a carbon inventory and application of the NE-TWIGS model, or other CCX approved method, to calculate stored carbon.

Conservation Lands: Projects in the U.S. involving conservation lands, forested land that has documentary evidence of the legal protection status of forest parcels that is part of a CCX-registered project. The quantity of XFOs to be issued to a CCX-registered forestry project shall be based on the net annual increase in stored carbon (expressed in metric tons of carbon dioxide equivalence) based on the results of the carbon inventory and application of the NE-TWIGS model, or other CCX-approved method, to calculate stored carbon.

Land ownership. All forested lands within one U.S. state under the same ownership must be included in the project area to be eligible under the CCX forestry offset program.

Long-term commitments: Upon registration of ***forestation or conservation lands*** projects with CCX the project owner (or its registered Aggregator) must present to CCX evidence that the forested site has been placed in a conservation easement (or other eligible protective status as provided below). Projects in the U.S. and Canada can qualify if undertaken on privately owned land and placed in protective status via the following actions: (a) establishing a conservation easement, for a term of no less than eighty years, providing that the project land is to be maintained as forest for the duration of the easement; (b) transfer of ownership of land parcels to a land trust, qualifying non-governmental organization or governmental body, provided such transfer establishes legal protection that the project land is to be maintained as forest for no less than eighty years; or (c) or other methods approved by the CCX. Upon registration of ***working forest land*** projects with CCX the project owner (or is registered Aggregator) must present to CCX evidence that the forested site is being managed in accordance with a forestry management plan.

Non-compliance: In the case of noncompliance with the Terms and Conditions contained in this CCX Exchange Forestry Offsets contract the owner of the noncompliant project shall return a quantity of CCX Exchange Offsets and/or Exchange Allowances that is equal to the total quantity of XFOs that are found to be in non-compliance, or present payment in an amount equal to the cost of acquiring such replacement offsets or allowance. The owner of the noncompliant project shall be prohibited from further participation in CCX.

Small projects are defined for CCX purposes as projects that are owned by entities for which the minimum annual gross accumulation (during years 2006 through 2010) of stored carbon on all sites enrolled in CCX by the project owner, as defined and quantified under CCX rules, is expected to be less than 2,000 (two thousand) metric tons CO_2 per year.

Medium-sized projects are defined for CCX purposes as projects that are owned by entities for which the minimum annual gross accumulation of stored carbon (during years 2006 through 2010), on all sites enrolled in CCX by the project owner, as defined and quantified under CCX rules, is expected to be more than 2,000 (two thousand) but less than 12,500 (twelve thousand five hundred) metric tons CO_2 per year.

Large projects are defined for CCX purposes as projects that are owned by entities for which the minimum annual gross accumulation of stored carbon (during years 2006 through 2010), on all sites enrolled in CCX by the project owner, as defined and quantified under CCX rules, is expected to be more than 12,500 (twelve thousand five hundred) metric tons CO_2 per year.

The property level forest inventory will be conducted in by a certified forester or a certified Plan Writer with the DNR, to meet the Property Level Forest Inventory Guidance.

The CCX forest carbon baseline is the quantity of stored carbon in the CCX-included carbon pools (expressed in metric tons CO_2 equivalent) in place on lands included in the CCX-registered project at the end of calendar year 2006. The forest carbon baseline will be calculated using the NE-TWIGS model, or other approved CCX model based accounting approach, based on the property level inventory data.

Periodic carbon quantification will be required on a yearly basis to calculate net changes in carbon stores. For working forests, project reports including harvested acres and map of harvest units; type of harvest by harvest unit (clear-cut, partial harvest); volumes by product class and species by harvest unit (saw timber, pulpwood, firewood); change in unit typing or boundaries (unit map, GPS data if available); reforestation designated by harvest unit (planting, natural regeneration); trees per acre planted by unit and species, damage by natural events, i.e., wind damage, ice damage, fire damage (volumes by product class and species by unit, map of damaged units); and sale of timberland that provide carbon credits (acres and map, date of sale). must be provided to the Delta P2/E2 Center and the DNR Forest Stewardship program on a yearly basis. The Delta P2/E2 Center, or its designee, will update, accordingly, the carbon inventory for the project.

Verification of forest carbon will be conducted by a CCX-approved verification entity that shall use the CCX-recognized forest carbon direct quantification methods in a manner consistent with the provisions herein. The cost of verification of such direct measurements will be borne by the Delta P2/E2 Center.

Quantification of Baselines and Carbon Accumulation for Small, Medium and Large CCX Forestry Projects

Project size (average annual $MTCO_2$ increment)	Small	Medium	Large
Definition	Projects that are less than 2,000 $mtCO_2/yr$	More than 2,000 $mtCO_2/yr$, less than 12,500 $mtCO_2/yr$	More than 12,500 mtons CO_2/yr
Baseline quantification	Property level forest inventory.	Property level forest inventory.	Property level forest inventory.
Periodic quantification of carbon increments	Annual information updates Update of carbon stocks via NE-TWIGS model or other CCX-approved model. For working forests, evidence of continued adherence to management plan.	Annual information updates. Update of carbon stocks via NE-TWIGS model or other CCX-approved model. For working ofrests, evidence of continued adherence to management plan.	Annual information updates. Update of carbon stocks via NE-TWIGS model or other CCX-approved model. For working forests, evidence of continued adherence to management plan.
Verification	Project and reports subject to inspection by entities engaged by CCX.	Independent verification of registration filing and annual project reports and direct carbon measurements.	Independent verification of registration filing, annual project reports and direct carbon measurements.

Forest Carbon Reserve Pool: A quantity of Exchange Forestry Offsets equal to twenty percent (20%) of all XFOs generated by CCX-eligible forest carbon projects (as defined and quantified in conformance with CCX Rules) shall be held in a CCX Forest Carbon Reserve Pool. Such accounts shall be established for each medium and large project and for each aggregator of pooled projects. XFOs in the account shall remain the property of the project owner(s) (pool participants in the case of aggregated projects) and all XFOs that remain in the pool shall be released to the project owners in late 2010. In the event that a CCX-registered project experiences a net loss of stored carbon during 2006, 2007, 2008, 2009 or 2010, (e.g. due to events such as fire or tree removal), CCX shall promptly cancel XFOs held in the corresponding CCX Forest Carbon Reserve Pool in an amount equal to the net quantity of carbon (expressed in metric tons CO_2 equivalent) released from the CCX-enrolled project. The maximum amount of carbon loss to be recognized by CCX shall be no more than the total quantity of XFOs issued to the project during its enrollment in CCX.

Project owners will be responsible for replacing the XFOs that are cancelled in instances of net loss of stored carbon. Such replacement instruments will be placed into the forest carbon reserve pool. Options available for the replacement of lost tons, and the associated replacement rates are as follows: (a) If previously issued XFOs are negated by net loss of stored carbon and are replaced with CCX-issued emission allowances or offsets, each previously issued offset must be replaced with one allowance or offset. (b) If previously issued offsets are negated by loss and are replaced CCX XFOs to be generated by the affected project in later years (but as soon as practicable) as a result of carbon accumulation at the original project site, each cancelled XFO must be replaced with 1.2 later-vintage XFOs.

Data management: the Delta P2/E2 Center, or its designee, will input and maintain data associated with carbon baseline and quantification in a manner to facilitate verification of each project lands. Fees for data management will be borne by the Delta P2/E2 Center.

Attachment D: Property Level Forest Inventory Guidance

1. Introduction

In order to establish the carbon baseline of a working forest, an inventory must be completed based on an on-field cruise. The cruise and inventory must be prepared by a professional forester as provided through the Society of American Foresters Certified Forester, a FSP certified plan writer, or a member in the Association of Consulting Foresters, following the guidance presented below.

2. Inventory Design

Field work will consist of variable radius plots ("points") and/or fixed radius plots in young regenerating stands. Sample points will be laid out on a systematic grid across each individual property. All stands will be delinated as a GIS layer and post cruise stratification will be utilized. Minimum stand size will be 5 acres for non-forest and recently clear cut stands. Minimum stand size will be 20 acres for all other stands, unless a stand type represents a minimum of 10% of the ownership (for example a 5 acre red pine plantation on a 40 acre tract would represent 12% of the ownership).

1998 digital photos are available in Michigan GEOREF projection. We are looking into getting 2005 digital photos in NAD 83.

Basal area factor ("BAF") 20 for all stands (including regenerating stands if any residual trees) AND fixed radius plots will be taken for young stands.

- For properties between 10 and 100 acres – 1 plot per 2.5 acres. Take at least 2 plot in each stand.
- For properties between 101 and 1,000 acres – 1 plot per 5.0 acres. Take at least 2 plot in each stand.
- For properties between 1,001 and 5,000 acres – 1 plot per 10.0 acres. Take at least 2 plot in each stand.
- For properties greater than 5,000 acres sample by pre-cruise strata (strata level averaging). Conduct intensive cruise in 10% of each strata.

3. Location of Plots

Plots will be located in the field with reference to cruise maps and gps coordinates ("waypoints"). Each cruise map will show the location of the plot, the plot number and property lines. Download gps coordinates directly to a Cruiser supplied gps unit as needed.

In locating a plot in the field, the cruiser should use the gps unit to navigate to within 2 to 3 chains of the plot location. The cruiser should then compass and pace the remaining distance to the plot center based on the bearing and distance provided by the gps unit.

The gps unit should not be used to navigate all the way to plot center. GPS coordinates are only accurate to within approximately 50'. When navigating within this distance of plot center the gps readout will not settle on a single distance and bearing to a specific plot center. This should also be avoided as a means of reducing cruiser bias in the final location of plot centers.

The cruiser is to monument each plot center. Monumentation will consist of vinyl flagging with the plot number written on it in black marker and tied up at head height near plot center. A second piece of vinyl flagging is to be placed in the ground at plot center.

The plot shall be taken precisely where compass and pacing prescribes. The only exceptions will be:

- Compass and pacing takes the cruiser off the ownership as indicated by property line monumentation as observed in the field. In this case the cruiser will adjust the plot back onto the ownership by moving an even number of chains in a cardinal direction until the plot center is within the target ownership. Any plot locations adjusted in this manner must be documented on the tally card of cruise diary.
- Sample points fall on or near a property line **or type line**. Sample points will not include trees which fall outside the ownership. The minimum distance between plot center and the property line will be equal to the 20 BAF limiting distance of the largest tree in the immediate vicinity of the sample point. Points which fall too close to a property line **or type line** will be offset an even number of chains perpendicular to, and away from, the property line.
- Paved or county roads and rights-of-way are considered to be off the ownership and will be treated as another ownership. Interior woods roads are considered part of the stratum in which they are located. No offset will be made to points which fall on or near an interior woods road. Any unusual aspects of a plot's location should be briefly described in the notes section of the plot card – or cruise diary.

4. Plot Observations

Plots data will be preferably recorded in a data recorder. Each cruiser will also keep a cruise diary to record observations.

Plot Card Header

Each plot card is to have the following header information completed.

- Cruiser's Initials;
- Date of fieldwork;
- Ownership and legal description or code;
- BAF used for this stand/ownership

Plot information

Plot number is to be recorded on the first line of each plot. Plots are to be separated from each other by at least one blank line. Observed cover type and recent harvest activity should be noted on a blank line below the last tree on the plot.

Tree Measurements

- *Sample Tree Selection*: Tally all trees **2.00" or larger** at dbh selected by the prism of choice. Dead trees that are selected by the prism will be ignored. All borderline trees will be measured for limiting distance against the table provided. Use the appropriate limiting distance for the BAF being used.

- *Required Tree Measurements:*

  - **Species**: Tree species code (see section V below)

  - **DBH**: Tree dbh to nearest 2-inch class

  - **Product Code**: (S = sawlog, P = Pulp – includes cull)

  - **Height:**

    Saw log height (product code S): Number of **16' sawlogs** to a minimum 10" dib, rounded up or down to the nearest 0.5 log. To qualify as a sawtimber, a tree must meet standards for grade 3 or better sawbolts under official northern hardwood grading rules.

    Pulp height (product code P): Number of 100" pulp sticks in addition to any sawbolts, rounded down to the nearest full stick:
    hardwoods, to a 4" dib top;
    softwoods, to a 3" dib top;

    Sub merchantable stems: 2" to 6.0 inches dbh will be recorded with no height measurement.

  - **Cull:** Any tree which is determined to be cull will be recorded by species, diameter and as cull. A cull is defined as any tree which does not meet the minimum criteria for pulpwood (ie. 6 inches dbh and 8 feet or merchantable wood).

  - **Quality:** record tree quality as either an "A" (acceptable growing stock) or "U" (unacceptable growing stock).

Stands designated as regenerating stands:

In addition to taking the 20 BAF plot, each cruiser will also take a regeneration plot. Plot radius will be 9 feet. Record number of trees within the plot. Average height (in feet)

and dominate species. If number of trees exceeds 20 within the plot record 21 and stop counting.

Stand information:

- Dominate stand age if even aged silvicultural system.
- Average conditions.

Other observations – cruise diary

- Cruisers should record all observations of interest (logging activity, corner evidence etc.).

Attachment E: Annual Project Update Requirements

On an annual basis, landowners must report the following information to the Delta P2/E2 Center:

I. If a harvest of forest products occurred:

- A. Harvested acres and GIS map of harvest units
- B. Type of harvest by harvest unit
  1. Clear-cut
  2. Partial harvest
- C. Reforestation designated by harvest unit
  1. Planting
  2. Natural regeneration
- D. Volumes by product class and species by harvest unit
  1. Roundwood
     a. Saw timber
     b. Pulpwood
     c. Firewood
  2. Chips
- E. Post harvest inventory of harvest unit to same specifications as initial cruise (Attachment D). For large harvest units, data can be collected any time after the logging contractors have completed activity in that area (during harvest inspections).

II. Change in unit typing or boundaries resulting from natural or planned activities.

- A. Revised GPS map
- B. If tree planting, report tress planted per acre by unit and species

III. Damage by natural events (wind, ice, fire)

- A. Estimate of volumes by product class and species by unit
- B. GIS map of damaged units

IV. Sale of enrolled timeberland

- A. Acres, map, date of sale, new owner contact information

V. Planned harvests for next year

- A. Acres and harvest units
- B. Type of harvest – clear-cut or partial

C. Map of harvest units
D. % of planned volume removal by harvest unit