

I. EXECUTIVE SUMMARY

The Incarnation Center is a 733-acre parcel of land located in the towns of Deep River and Essex, Connecticut. The Incarnation Center was originally founded as a summer camp at Lake Mohegan, New York by the Church of the Incarnation and moved to its current location in 1928. Since its inception as a camp, Incarnation Center has also established conference, nature, and childcare centers at the site. As the center and its programming continue to grow, the board and administration of the Incarnation Center have committed to developing and implementing a new strategic plan in 2008. This document will offer guidance for the Incarnation Center's new strategic plan and replace outdated forest plans from 1983 and 1994.

Each year, clients approach Dr. Mark Ashton at Yale's School of Forestry and Environmental Studies (F&ES) to request a management plan that addresses a client's concerns regarding the management objectives of the host agency (i.e. the Incarnation Center) and the ecological integrity of their property. These requests are given to students to work on as part of the *Management Plans for Protected Areas* class offered each fall. Student groups respond to these requests and develop management plans based on the goals and objectives of the agency. Ahki Consulting is the student consultant group that addressed this request and developed this management plan.

On September 15, 2007, Ahki Consulting and advising professors – Mark Ashton and John McKenna – spoke with the Incarnation Center Executive Director, Peter Larom, Development Director, Michelle Doheny, and Board Member Nathaniel Eddy. From this meeting we ascertained that the following issues were of particular importance to the Incarnation Center: the Camp and other programming, the Haynes Aggregates quarry expansion and lease, a potential senior housing complex, and a planned residential subdivision. To address the feasibility and potential impacts on the local ecosystem and surrounding community, we conducted a biophysical and social assessment that guided our final recommendations for this plan. Hence, this document is divided into three distinct sections: biophysical assessment, social assessment, and recommendations.

The **biophysical assessment** addresses the following: land use history, surficial geology and geomorphology, soil types, hydrology and hydrologic features, vegetation survey including classification of stand types and identification of rare or endangered species, and wildlife and wildlife habitat. The purpose of this section is to provide an illustration of the physical and ecological context of the property, which is used to guide our recommendations on potential uses for the property or to inform the Incarnation Center about the potential impacts of development projects on the surrounding environment.

The **social assessment** identifies key stakeholders in and around the Incarnation Center including program staff, community officials, residents, recreationalists, and other users of the Incarnation Center property. This information is intended to provide information on the perceptions and attitudes of key stakeholders regarding management of the resources at Incarnation Center and associated programming. This information is also

used to guide our recommendations for the Incarnation Center based on their immediate and long-term goals.

Based on the results of each assessment, Ahki Consulting identified six strategic objectives for IC with accompanying tactical objectives. Strategic objectives describe an intended outcome, while tactical objectives are short-term goals whose fulfillment moves an organization towards its strategic objectives. Specific recommendations are actions that can be taken to accomplish objectives. These are all summarized in the tables below.

<i>Strategic Objective 1 - Protect and Enhance the Ecological Integrity of Property</i>	
<i>Tactical objective</i>	<i>Recommendations</i>
<i>1. Protect the water quality of lakes, rivers, and groundwater</i>	<ul style="list-style-type: none"> • Maintain vegetated buffers around water features • Continue fecal coliform monitoring of Bushy Hill Lake • Monitor aquatic plants • Prevent spread of exotic plants • Monitor runoff from farm activities
<i>2. Protect groundwater quality</i>	<ul style="list-style-type: none"> • Maintain forest cover as a natural filter for drinking water • Continue monitoring wells
<i>3. Conserve and protect ecological reserves</i>	<ul style="list-style-type: none"> • Protect all wetlands and vernal pools • Maintain 100-400 ft. zone of reduced disturbance around wetlands/vernal pools • Follow BMPs for activities that impact wetlands • Develop exotic species management plan
<i>4. Protect and enhance wildlife habitat and resources</i>	<ul style="list-style-type: none"> • Participate in regional planning • Maintain a variety of seed trees • Install culverts for salamander migration • Promote a family bow hunting weekend to reduce the deer herd • Continue relationship with SX Sportsmen

<i>Strategic Objective 2 – Ensure High-Quality Timber Management</i>	
<i>Tactical objective</i>	<i>Recommendations</i>
<i>1. Identify program, conservation, and timber-production areas</i>	<ul style="list-style-type: none"> • Protect sensitive features • Maintain aesthetic appearance of program areas • Use a consulting forester for timber operations
<i>2. Ensure worker safety in tree harvesting</i>	<ul style="list-style-type: none"> • Obtain “Game of Logging” credentials for maintenance staff
<i>3. Follow BMPs when harvesting in wet areas</i>	<ul style="list-style-type: none"> • Harvest in dry or frozen periods
<i>4. Select low-quality trees for firewood</i>	<ul style="list-style-type: none"> • Improve value of residual stands
<i>5. Preserve conifers</i>	<ul style="list-style-type: none"> • Avoid cutting hemlock and maintain health of white pine stands
<i>6-7. Manage woody debris</i>	<ul style="list-style-type: none"> • Pile slash after logging and avoid over-harvesting downed wood for firewood • Leave and create snags for wildlife
<i>8. Manage for vernal pools and wetland features</i>	<ul style="list-style-type: none"> • Maintain a 100-400 foot critical habitat zone around vernal pools and wetland features
<i>9. Investigate value-added timber markets</i>	<ul style="list-style-type: none"> • Contact Mystic Seaport, NE Naval timbers and other specialty customers

Strategic Objective 3 – Continue to Provide and Enhance Quality Educational Experiences at The Incarnation Center	
Tactical objective	Recommendations
1. Protect key areas for environmental education	<ul style="list-style-type: none"> • Avoid negative impacts to key program areas • Use timber harvesting to teach you about wood use; develop invasive species curriculum; involve youth in natural resource monitoring and restoration
2. Engage Bushy Hill Nature Center and Nature’s Classroom staff in land management decisions and restoration activities	

Strategic Objective 4 – Restore Degraded Features on the Landscape	
Tactical objective	Recommendations
1. Implement BMPs for rehabilitation of all quarry operations	<ul style="list-style-type: none"> • Develop restoration plan with Haynes Aggregates • Eliminate unnecessary fire pits • Block unauthorized access points • Improve trail maintenance • Reduce soil compaction
2. Restore highly impacted areas on the property	

Strategic Objective 5 – Consider the Long-Term Impacts of Development Activity	
Tactical objective	Recommendations
1. Consider the long-term impacts of current and proposed development projects	<ul style="list-style-type: none"> • Determine impacts on ecology • Involve center programs and staff in planning

Strategic Objective 6 – Protect and Enhance Open Space	
Tactical objective	Recommendations
1-2. Integrate conservation and sustainable land management into the Incarnation Center’s planning process	<ul style="list-style-type: none"> • Recognize natural areas as the Incarnation Center’s main attraction • Continue to recognize Incarnation Center’s tradition in land stewardship and spiritual sanctuary • Pursue conservation easements
3. Investigate creative ways to maintain the current land base while generating revenue	