



ECOLOGICAL RESTORATION FOR COASTAL HABITATS WORKSHOP

May 7-9, 2013

9:00am - 4:30pm

Waquoit Bay National Estuarine Research Reserve
149 Waquoit Highway, Waquoit

REGISTRATION

www.waquoitbayreserve.org

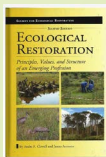
Cost: \$65.00

(includes food, workshop materials and a copy of

Ecological Restoration:

Principles, Values and Structure of an Emerging Profession, Second Ed.)

Limited scholarships available, call to inquire.



**Space is limited; Register early!
Please register by May 3, 2013**

Please remit and mail checks to:
Waquoit Bay Reserve Foundation
Attn: Restoration workshop
P.O. Box 3522
Waquoit, MA 02536

For additional information please contact
Tonna-Marie Rogers at 508-457-0495 x110 or

Co-Sponsors



TARGET AUDIENCE:

- Restoration practitioners
- Restoration project managers
- Natural resource and land managers
- Ecologists
- Biologists
- Coastal managers
- State and federal agency staff
- Consultants

Many coastal ecosystems are being negatively impacted by environmental stressors such as development, land use and change, nutrient pollution, invasive species, among others, resulting in a loss of benefits that these areas provide. This trend has created a growing need for the practice of ecological restoration to transform degraded areas back to healthy functioning ecosystems. This dynamic three day workshop will go deep into the principles and practices of ecological restoration starting with an examination of why we restore impaired ecosystems and the ecological, personal, cultural and socioeconomic values that restoration fulfills. Combining classroom and hands-on learning techniques, the workshop will unpack the various steps involved in ecological restoration projects from design to implementation and evaluation. Case histories of restoration projects from around the world and field trips will be used to illustrate and elaborate on concepts presented. Participants will have the opportunity to share their experiences and lessons, receive technical input on planned restoration efforts, and observe/participate in an actual restoration action at the workshop site.

At the end of the workshop participants will be better equipped to plan and contribute to successful restoration efforts in their area.

The workshop will be taught by Dr. Andre Clewell - a seasoned, sought after expert in the field of ecological restoration.



Andre Clewell served 17 years on the faculty at Florida State University, including two years as a Fulbright Fellow teaching in Honduras. For 22 years he owned the firm, A. F. Clewell, Inc., where he recovered native ecosystems on mined lands and restored degraded ecosystems for The Nature Conservancy and other clients.

Clewell is a founding member and past President of the Society for Ecological Restoration (SER; <http://www.ser.org/>) for which he authored foundation documents including The SER Primer on Ecological Restoration and Guidelines for Developing and Managing Ecological Restoration Projects. He helped develop SER'S forthcoming Practitioner Certification Program. He received SER'S Rieger Award for service and holds the honorary title of President Emeritus in SER.

Clewell was instrumental in establishing a master's program in ecological restoration in India. He presented restoration workshops in Mexico, Ecuador, Chile, Australia, Madagascar, Spain, and India. He presents workshops regularly for the U.S. Army Corps of Engineers. He has lectured on restoration at Texas A&M University, University of Georgia, Yale University, and several other universities in the USA.

Clewell, with co-author James Aronson, wrote *Ecological Restoration: Principles, Values, and Structure of an Emerging Profession*, Second Edition, 2013, Island Press.

Clewell is co-coordinator of the RNC Alliance (Restoring Natural Capital; <http://www.rncalliance.org/>). He has published numerous papers in botany and ecology, and authored the book, *Guide to the Vascular Plants of the Florida Panhandle*. He is a Research Associate at Tall Timbers Research Station, Florida (<http://www.talltimbers.org/>) and conducts research in fire ecology. Clewell is a graduate of Oberlin College. He has a masters degree from Kent State University and earned his Ph.D. at Indiana University.

COURSE AGENDA

Day 1 – Tuesday, May 7

Why Restore?

- Human values fulfilled by restoration
- Ecological costs of impairment

What Is Restoration?

- The 3 cornerstones of restoration
- Legacy, utility and recovery models
- Restoring ecological attributes
- Reestablishing historical trajectories

Afternoon field trip

**Afternoon field trip*

Day 2 – Wednesday, May 8

Project Planning

- Appropriate target selection
- Cultural ecosystem targets
- Reference model preparation

Intensity of Effort

- Natural and assisted regeneration
- When to use technical options

Project Administration

- Stakeholder collaborations
- Project roles
- Administrative options
- Restoring larger landscapes

**Afternoon Field Trip*

Day 3 – Thursday, May 9

Guidelines for Restoration

- Conceptual planning
- Preliminary onsite monitoring
- Implementation planning
- Post-implementation monitoring
- Evaluation, publicity, celebration

Use of Fire in Restoration

- Fire in ecosystem management
- When to use fire in restoration



Instructor: Andre Clewell

Day 3 (continued) – Thursday, May 9

**Field Trip* – Observe/participate in a prescribed burn at Waquoit Bay Reserve to restore rare species in a sand plain grassland habitat. This will be a unique opportunity to see restoration in action at the workshop site.

Technical Assistance - Project Implementations

Dr. Clewell will respond to questions participants have about their own projects, either during workshop sessions or informally.

Based on participant interest, we will also address hot-button topics like climate change, invasive species, restoring natural capital, novel ecosystems, and others.



Field trips will be an integral part of this workshop. We will visit a variety of ongoing and proposed restoration sites including pitch pine scrub oak barrens (mechanical and prescribed fire practices), in stream restoration, coastal grassland communities, vernal pools, and reference sites, to apply concepts learned and critique restoration efforts.