

Minutes
Heritage Trust Advisory Board
Thursday, December 1, 1988, 10:00 am
Rembert Dennis Building, Columbia, SC

Members Present

Dr. Sidney A. Gauthreaux , Jr. (Chairman)
Mr. Edwin B. Drane
Dr. Wade T. Batson
Ms. Fran Eargle
Mr. Michael Ray
Ms. Mary Edmonds
Ms. Claudette Cureton
Mr. Robert J. Gould
Dr. Bruce Rippeteau (V. Chairman)
Mr. Edward B. Burgess
Mr. Fred P. Brinkman
Dr. James A. Timmerman, Jr.

Members Absent

Sen. Nell W. Smith
Mr. Charles Compton

Other Attendees

Brock Conrad
John Frampton
Roger Jones
LaBruce Alexander
Joe Watson
John Rogers
Miles Hayes
John Cely
John Nelson
Steve Bennett
Glenn Oeland
Doug Rayner
Tom Kohlsaat
Larry Robinson
Stuart Greeter

Chairman Gauthreaux called the December 1 meeting of the Heritage Trust Advisory Board (HTAB) to order at 10:00 am in room 335 of the Rembert Dennis Building. The August 25 meeting minutes were approved as written.

Budget Committee

Dr. Timmerman reported that a budget for the Wildlife Department had been submitted to the Budget and Control Board for approval. That budget includes four new positions and an additional \$121,000 for the Heritage Trust Program (HTP). Dr. Timmerman said it would be difficult to get these new positions and he needs help from the HTAB members.

Tom Kohlsaat passed out copies of a proposed budget for the Heritage Land Trust Fund (HLTF). He reported that revenues have increased and four projects are proposed for addition to the budget. Stuart Greeter described the Dargan Property Addition, Savage Bay Addition, Hoyt Cooke/Wall Trust, and the Steven's Creek Addition. Those proposals were approved by the HTAB and a copy of the budget is attached to the minutes on file.

Cultural Areas Committee

Ed Drane described the proposed Croft State Park Soapstone Quarry registration agreement, which was approved by the HTAB. Bruce Rippeteau described the Lawton Mound Archaeological Site which is dated 1150-1250 AD. Lawton Mound is the best of perhaps six mound sites left relatively intact in South Carolina. The HTAB approved Lawton Mound as a protection project.

Ed Drane reported that the Committee will investigate the Andre Micheaux Site which has been proposed by the Charleston Natural History Society.

Bruce Rippeteau invited everyone to the 25th anniversary open house at the Institute of Archaeology and Anthropology on December 9.

Natural Areas Committee

Following brief introductions by Sid Gauthreaux and Wade Batson, Tom Kohlsaet described the need to address large area projects. Doug Rayner described the process used to select significant large areas and the planning process used to select the most significant tracts within large areas. The HTAB approved a motion to accept the large areas report and proceed as described. The Board moved to hold an executive session, and following the executive session, authorized staff to proceed with developing a protection plan for a large area protection project. A copy of the large areas proposal is attached to the file minutes.

Deveaux Bank, Myrtle Beach State Park, and Bird Mountain were proposed and approved as protection projects. The Capers Island Mangement Plan was approved and reccomended to the Wildlife Commission for their approval.

Protection Projects Update

Stuart Greeter described a proposed dedication agreement for Nipper Creek Heritage Preserve and proposed trust easements for the Chandler Heritage Preserve, the Bunched Arrowhead Heritage Preserve, and the Nipper Creek Heritage Preserve. The HTAB voted to recommend those documents to the Wildlife Commission for their approval. Registration agreements for Hexastylis naniflora and the Whitener Tract were explained and approved by the HTAB. Since the last HTAB meeting the Wildlife Department has acquired 280 acres at Buzzard Roost, 655 acres at the Dargan Tract, and 22 acres at Shealy's Pond. The 218 acre Ashmore Addition is expected to be purchased prior to the end of the calendar year.

Roger Jones noted that TNC has acquired two properties at Sandhills Bay and he hopes to have the third and last property there under option soon. TNC has the Wall Tract and the Hoyt Cook Tract at Flat Creek Natural Area under option. Roger hopes to have an option on the Byrd Tract soon. TNC recently received a 2100 acre gift of land in the ACE Basin and hopes to use that for a matching grant to obtain more property in the future.

Comdemnation Possibilities on Public Lands

Jim Quinn reported that we have the possibility of an absolute prohibition of condemnation of property not in the Trust and a procedure for condemnation of property already in the Trust. This is the reverse of what is most desirable. There is no special protection for a State Park unless it is dedicated or placed under the Trust. Bruce Rippeteau asked to have this opinion in writing and that is attached to the minutes on file. Jim Quinn recommended leaving the Heritage Trust Act as it is.

Other Business

Tom Kohlsaas reported that the reception for the John Henry Dick print in Charleston was a success and about 50 prints were sold. The prints are available for sale and the new Check for Wildlife posters featuring the print are also available.

Meeting dates for HTAB meetings in 1989 were set for February 9, May 11, August 10, and November 9.

The meeting was adjourned.

ACE BASIN

General Location: Colleton County, south of Highway U.S. 17

Acreage: ca. 90,000

Description and Significance:

This area extends from the Atlantic Ocean inland for more than twenty miles. It contains a diverse assemblage of representative outer coastal plain natural communities, including the full array of communities typically associated with barrier islands (Otter and Pine Islands), marsh islands (numerous) and major estuarine rivers (Ashepoo, Combahee and Edisto). It harbors more than one-third of the 67 natural communities identified by Nelson (1986). Especially well represented here are tidal bald cypress - tupelo gum swamp, brackish and freshwater marsh, and bay forest communities. An abundance of managed, brackish and freshwater impoundments, the total absence of industrial pollution, and the isolated, undeveloped nature of the area add considerably to the importance of this site as a major wildlife resource area.

More than 10,900 acres of marshland, brackish and freshwater impoundments, maritime forest and pine flatwoods are already in protective ownership by the S. C. Wildlife and Marine Resources Department in the heart of this tract (Bear Island GMA). More than 300 vascular plants have been documented at Bear Island GMA, including one significantly rare species, Helenium pinnatifidum (one of the sneezeweeds). An active bald eagle nest also is present, and it has been registered as a Heritage Site.

Otter Islands, a 2,100 acre barrier island complex at the southern tip of this area, is an approved protection project of the Heritage Trust Program. It has one of the highest densities of nesting Atlantic loggerhead sea turtles on the southern half of the South Carolina coast. In addition to harboring good representative examples of maritime dunes, forest and marsh communities, Otter Islands also harbors an excellent shell midden community with a large population of round buckthorn (Sageretia minutiflora).

The first occurrence of nesting by the endangered wood stork in South Carolina (1981) was in the ACE Basin and that habitat has been registered as a Heritage Site. This site has only been used intermittantly since 1981, but an additional colony site now occurs in the ACE Basin in addition to two sites just outside the Basin.

An undisturbed, 2,300 acre portion of the 9,500 acre Snuggedy Swamp has been identified (Rayner, 1984) as a natural area of statewide significance (documentation enclosed). This is the largest freshwater marsh/bay complex known in South Carolina and is associated with a major peat deposit (Cohen et al., 1982).

Eleven additional areas in the ACE Basin were surveyed by Rayner (1984) as part of an inventory of botanical natural areas in Colleton County. Although no additional botanical natural areas of high significance were discovered, this survey uncovered an abundance of good representative communities, especially tidal swamp and marsh. Moreover, the major significance of the ACE

Basin derives in large part from the presence of several endangered animals, whose presence is related to the area's size, isolation, lack of development and presence of numerous brackish and fresh water impoundments.

A report by the U. S. Fish and Wildlife Service (Murdock, 1980) identified the ACE Basin as one of 13 "Significant Wildlife Resource Areas of South Carolina." The Fish & Wildlife Service (Murdock, pers. comm.) now considers this area to be its second highest wetland protection priority in the eastern United States. The ACE Basin also is a high protection priority of several private conservation organizations, including The Nature Conservancy and the Trust for Public Land.

The ACE Basin now harbors more than 40% of South Carolina's nesting pairs of the federally-endangered bald eagle (21 of 50 nesting pairs in 1988). In 1980, the date of the Fish and Wildlife Service report, the ACE Basin harbored only 30 percent of the state's nesting bald eagles (6 of 20 pairs).

Prior to 1981 no nesting colonies of the federally endangered wood stork were known in South Carolina. In 1988 three active colonies were located in or immediately adjacent to the ACE Basin. Although only one colony, representing about 40% of nesting pairs, is actually in the ACE Basin, observations of as many as 1,000 birds feeding in the Basin in the summer of 1988 suggest that the Basin is very important to the maintenance of all three colonies.

The dramatic increase in bald eagle and wood stork nesting in the Basin may reflect in part the loss elsewhere of appropriate habitat for these species, especially in Florida. The importance of this area to these species can only increase in the future, provided the area remains undeveloped and management remains the same.

Other federally-listed animal species mentioned in the 1980 report on the ACE Basin by Murdock include the red-cockaded woodpecker, the American alligator and the shortnose sturgeon. The red-cockaded woodpecker in 1980 consisted of a remnant colony which has since disappeared. This species could return if appropriate upland habitats are managed for old growth pine. The American alligator has since been delisted and is now considered "threatened-similarity of appearance." This is a much less restrictive listing category that allows for controlled harvest, which in South Carolina began in 1988. Large numbers of alligators are found in the Basin, and this should continue to be a major refuge area for alligators. Little is known about the shortnose sturgeon except that it is present in the Basin in both the South Edisto and Combahee rivers.

State-listed animal species here include the Cooper's hawk and the golden eagle. Cooper's hawks are a fairly common permanent resident, and golden eagles are an uncommon winter visitor.

Animal species "of special concern" here include the black bear, Mississippi kite and Swainson's warbler. Black bears are relatively uncommon here, flocks of Mississippi kites frequently are seen feeding around fields, and Swainson's warbler is occasionally known to nest here.

Additional plant species of concern known or reported from the basin include nutmeg hickory (Carya myristiciformis), Georgia rockrose (Helianthemum georgianum), river-bank quillwort (Isoetes riparia) and a rare false dragonhead (Physostegia leptophylla). The occurrence of nutmeg hickory is based on a 1934 report and has not been verified. Georgia rockrose occurs in the maritime forest of Pine Island, part of the Otter Islands protection project. The quillwort and the false dragonhead occur in freshwater tidal swamps and marshes. Although only one occurrence of each is known from the Basin, it is likely that extensive populations occur all along the South Edisto River, and possibly the Combahee and Ashepoo rivers as well.

The ACE Basin also receives enormous waterfowl use of impoundments and marshes. Moreover, the North American Waterfowl Management Plan (Thomas Strange, pers. comm.) identified the Basin as one of two areas in South Carolina that are important to the recovery of dwindling black duck populations.

A summary of the Elements of Concern here quickly highlights the enormous significance of this area; four federally-listed animals, two state-listed animals, three animals of special concern, one plant under consideration for federal listing, one plant of regional concern, three plants of special concern, the largest complex of grass-sedge marsh and bay forest in South Carolina and numerous good, representative examples of many plant communities.

Two sites in the ACE Basin, i.e. Otter Islands and Snuggedy Swamp, are appropriate for protection as typical protection projects of the Heritage Trust Program. Since the site as a whole derives its primary significance from its large size, isolation, lack of development and pollution, and the presence of numerous managed impoundments, the ACE Basin as a whole is being proposed for protection as part of the Large Areas Project.

Proposed Priority Assessment: Although a formal ranking has not been done for the 20 sites identified as part of the large areas project, it is clear that this site ranks number one, at least in terms of ecological quality. No other site has nearly as many high-ranked elements of concern.

Over 70,000 acres here are owned by just 10 individuals or corporations, including the Wildlife Department. However, since most of these large parcels are working plantations, it is likely that alternatives to outright acquisition will need to be pursued if protection of this area is to be achieved.

Surrounding Land Use: This area is bounded on three sides by effective natural barriers; it is bounded to the south by the Atlantic Ocean, to the west by the Combahee River and to the east by the South Edisto River. The northern site boundary is Highway U.S. 17, which already has some residential and commercial development, but little or no industrial development.

Management Recommendations: The existing impoundment dikes will need to be maintained. Prescribed fires may be needed in some areas. Otherwise only routine maintenance activities, such as posting of boundaries, will be needed.

Threats: A small peat mining operation, which sells the peat for horticultural uses, poses a potentially serious threat to unspoiled parts of the Snuggedy Swamp, where peat deposits up to 12 feet deep have been reported.

Development pressure is low at present, including residential, commercial and industrial, but development will become an increasingly greater threat in the future. It is becoming more and more difficult for individuals or families to own and operate a large plantation. It is only a matter of time before these plantations are bought by developers.

Silvicultural practices, especially short rotations and conversion of hardwoods into pine plantations, threaten some communities (especially maritime forest) and some species (especially the red-cockaded woodpecker).

Elements of Concern

PC	Maritime grassland	Good representative examples
PC	Maritime forest	Good representative examples
PC	Fresh water marsh	Good representative examples
PC	Bay forest	Largest example in S.C.
PC	Shell middens	Good representative example
PC	Fresh tidal marsh	Extensive representative examples
PC	Tidal bald cypress-tupelo gum swamp	Extensive representative examples
AS	Bald eagle	Federally-listed as endangered
AS	Atlantic loggerhead sea turtle	Federally-listed as threatened
AS	Shortnose sturgeon	Federally-listed as endangered
AS	Wood stork	Federally-listed as endangered
AS	Cooper's hawk	State-listed as threatened
AS	Golden eagle	State-listed as endangered
AS	Mississippi kite	Special concern
AS	Black bear	Special concern
AS	Swainson's warbler	Special concern
PS	<u>Carya myristiciformis</u>	Regional concern (threatened)
PS	<u>Physostegia leptophylla</u>	Federal candidate for listing
PS	<u>Helianthemum georgianum</u>	Of concern (Status Unresolved)
PS	<u>Isoetes riparia</u>	Of concern (Status Unresolved)
PS	<u>Sageretia minutiflora</u>	Of concern (Status Unresolved)

Information Sources

Cohen, A. D., M. Holmes, M. Andrejko, D. Corvinus, M. Tisdale and T. J. Vigerstad. 1982. Peat Resource Estimation in South Carolina. Final Report (Year 2). S.C. Energy Research Institute, Columbia, SC.

Murdock, N. A. 1980. ACE River Basin. In U.S. Dept. of the Interior. 1981. Significant Wildlife Resource Areas of South Carolina. U.S. Fish and Wildlife Service, Asheville, NC.

Murphy, T. 1988. Personal Communication. Nongame and Heritage Trust Section, S.C. Wildlife & Marine Resources Dept., Green Pond, SC.

- Nelson, J. B. 1986. The Natural Communities of South Carolina. S.C. Wildlife & Marine Resources Dept., Columbia, SC.
- Rayner, D. A. 1984. Inventory of Botanical Natural Areas in Colleton County, S.C. Final Report for the Coastal Energy Impact Program (8307). S.C. Wildlife & Marine Resources Dept., Columbia, SC.
- Rayner, D. A. 1986. Field Survey Notes. S.C. Heritage Program, S.C. Wildlife & Marine Resources Dept., Columbia, SC.
- Strange, T. H., Jr. 1988. Personal Communication. Wildlife Section, S.C. Wildlife & Marine Resources Dept., McClellanville, SC.

Prepared by: Douglas A. Rayner, Ph.D.
July 26, 1988

Snuggedy Swamp

Site Description:

Snuggedy Swamp consists of a 9,500 acre complex of tidal, salt to brackish marsh, freshwater marsh and swamp, and ancient barrier islands. Natural conditions have been rather severely altered by man's activities in most of this area. The area recommended here consists of about 2,300 acres of relatively undisturbed marsh and swamp. It is bounded to the west by the Ashepoo River and Deer Creek, to the north by Cattle Island, to the east by a drainage ditch and to the south by the abandoned bed of the Seaboard Railroad.

The geomorphology, sedimentology and depositional history of this area have been studied in some detail by Staub (1977). The nature and extent of the peat deposits here have been determined by Cohen et al. (1982). Information concerning the floristic composition is less complete. General vegetative types were determined from aerial surveys, and floristic composition of peripheral areas was determined by boat and on foot. No floristic surveys have been made of the inaccessible interior of the area, and no attempts were made to correlate floristic composition with depositional history.

A narrow band of brackish, tidal marsh is adjacent to the Ashepoo River and Deer Creek. Interesting or unusual species here include Sagittaria lancifolia, Scirpus californicus, Lilaeopsis chinensis and Hymenocallis crassifolia. Sagittaria lancifolia has a very restricted distribution in South Carolina but is apparently quite abundant in fresh to brackish marshes over peat. According to Cohen et al. (1982) this tidal marsh is underlain by about 12 inches of peat.

Aerial surveys indicate that most of Snuggedy Swamp is a mosaic of fresh marsh and swamp with a few, small, scattered ponds. The "basic" community type here probably is a loblolly bay (Gordonia lasianthus) dominated shrub bog. Differences in vegetation and floristic composition for this "basic" community are related primarily to fire history. Staub (1977) presents evidence that fires ignited during dry periods burned down into the peat and created topographic depressions. Depending on the depth of the peat burn, burned areas may develop into a variety of grass-sedge or emergent-floating aquatic communities; if a fire burns little or no peat, the original community may regenerate, minus loblolly bay (it is intolerant of fire) and possibly with the addition of pond pine (it is highly tolerant of fire). Hardwoods such as swamp tupelo and red maple also are intolerant of fire.

Important pocosin species include Persea borbonia, Myrica cerifera, Lyonia lucida and Vaccinium corymbosum. Emergent or floating aquatics include Nymphaea odorata, Lemna sp., Decodon verticillata, Limnobium spongia, Habenaria repens and Alternanthera philoxeroides. Grass-sedge marsh areas may consist of thick zones of just a few species, such as Typha latifolia, Cladium jamaicense, Woodwardia virginica, Lachnanthes caroliniana or Erianthus sp. Or, grass-sedge marsh areas may be quite high in diversity and include such species as Andropogon virginicus, Sagittaria lancifolia, Centella asiatica, Pluchea foetida, Bidens laevis, Xyris sp. and Lachnocaulon sp. At least some pocosin shrubs are present in all grass-sedge marshes and shrub are predominant in some.

Site Significance:

This is by far the largest grass-sedge marsh/loblolly bay pocosin complex in South Carolina. For this reason, it is considered a site of statewide significance by the S.C. Heritage Trust Program. Larger and better examples

of this natural community type are known in Florida, Georgia, North Carolina and Virginia, so the area cannot be considered an area of national significance. The extensive work done on the geomorphology, sedimentology and petrology of the area provides an excellent background for an extensive botanical and ecological survey. Searches for additional rare plants should be an important part of such a study.

Actual and Potential Threats:

According to Cohen et al. (1982) the average peat depth in this area is about six feet, and some deposits are 12 feet deep or more. The peat here is of sufficient quality to be used as fuel. Cohen et al. (1982) indicate that this deposit is relatively small compared to major peat gasification projects under development in the U.S. but that deposits of similar size are exploited in Russia and Europe. The threat to the area from a peat-fuel project probably is not high or immediate.

Peat is mined commercially for horticultural use in an area just south of the southern boundary of this site. Similar operations pose a serious threat to this area. The immediacy of this threat is not known.

Most of the wetlands immediately north, east and south of this area are diked and managed to attract waterfowl. This area easily could be converted to similar purposes. This could be the most immediate threat to the area.

Management Recommendations:

A large ditch is parallel to the old Seaboard Railroad bed, which forms the southern boundary of this proposed natural area, and another ditch forms the proposed eastern boundary. Cohen et al. (1982, p. 36) state:

"Evidence of recent fires in surface samples analyzed microscopically as well as evidence of recent vegetational changes in the upper portions of the cores suggests that the Snuggedy Swamp drainage has been altered in the last 100 years or so. Thus, the present surface vegetation would no longer be considered to be virgin swamp vegetation."

This comment was in reference to the Snuggedy Swamp as a whole (9,500 plus acres), and, admittedly, most of the area outside this proposed area has been altered greatly. There probably has been little direct effect from the above-mentioned drainage ditches in the area recommended here except in the immediate vicinity of the ditches. The effect of these drainage ditches needs to be determined more completely and, if necessary, changes made to offset their effects.

This area requires no additional active management. Fire is a natural component of this system and natural fires should be allowed to burn. Adjacent areas may be artificially burned to promote growth of certain waterfowl foods; efforts should be made to keep these fires out of this area.

Heritage Land Trust Fund Budget Summary for 1989 1-29-89

Project Name	County	Expenditure
1989 Commitments:		
Bennett's Bay Addition	Clarendon	\$ 80,000
Cartwheel Bay Addition	Horry	145,000
Flat Creek Addition (Byrd)	Lancaster	116,000
Fish Haul Creek	Beaufort	100,000
Little Pee Dee St. Pk. Bay	Dillon	80,000
Woods Bay Addition	Sumter/Clarendon	75,000
Sandhills Bay	Clarendon	159,000
Lewis Ocean Bay I	Horry	1,300,000
Lewis Ocean Bay II	Horry	1,250,000
Dargan Property Addition	Marion	45,000
Savage Bay Addition	Kershaw	24,000
Hoyt-Cooke & Wall Trust	Lancaster	489,000
Stevens Creek Addition	McCormick	111,000

	SUBTOTAL	\$ 3,974,000
 Proposed Projects:		
Woods Bay Addition II	Clarendon/Sumter	\$ 110,000

	TOTAL	\$ 4,084,000
 Reserved Approp. Sav. R. Bluffs		
	\$	195,000
Approx. Jan. 1989 Cash Balance:	\$	2,314,000
Anticipated Revenue in 1989	\$	1,960,000

Total Cash Available in 1989	\$	4,469,000
 Approximate Year End Balance:		
		\$ 385,000
 Approved Expenditures--No Time Frame		
Dukes Bay	Hampton	\$ 363,000
Long Branch Bay	Barnwell	80,000
Savannah River Bluffs Add'n	Aiken	332,000
York Subdivision Outcrop	York	13,000
Branchville Bay	Orangeburg	50,000
Dalzell Bay	Sumter	50,000
Halfway Gut Branch Bay	Dorchester	30,000
Reevesville Bay	Dorchester	20,000

	TOTAL	\$ 938,000