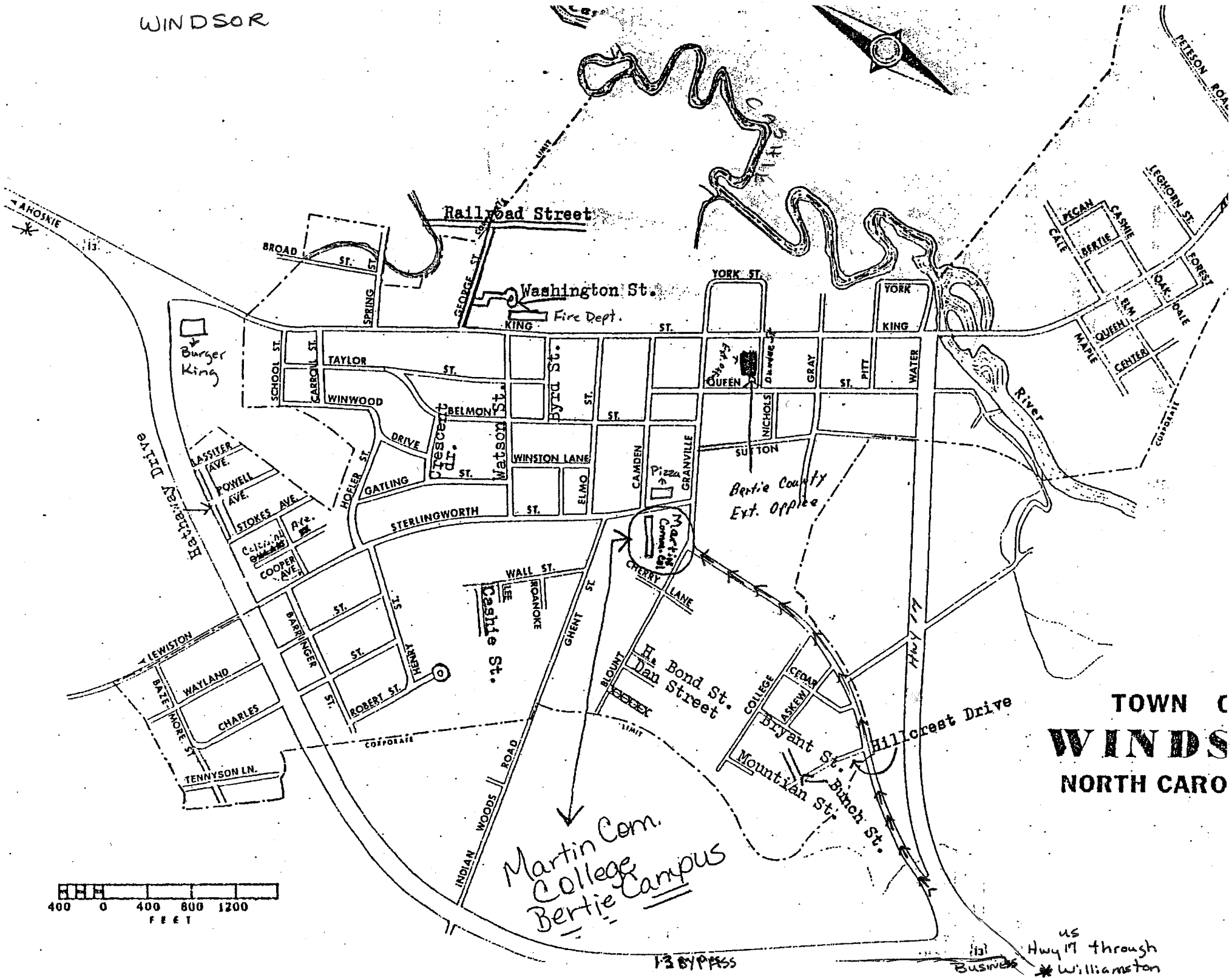
CHOWAN RIVER BASIN REGIONAL COUNCIL

Martin County Community College
Bertie County Campus
Granville Street
Windsor, North Caolina

JUNE 8, 2000

AGENDA

3:00	Welcome & Call to Order	Brewster Brown, Chairman
3:05	Roll Call	Joan Giordano, APNEP
3:10	Approval of Minutes from April 6th Meeting in Windsor	Brewster
3:15	Coastal Habitat Protection Plans	Liz Noble Division of Marine Fisheries
3:45	OLD BUSINESS:	
	1- Demonstration Projects Update	Billy Griffin and Guy Stefanski
	2- Status of Nucor permits	Joan
	3- TMDL allotments (clarification)	Guy
	4- Coordinating Council Update	Brewster
4:15	NEW BUSINESS and public comment	ALL
4:25	Plans for next meeting (create agenda items)	ALL
4:30	ADJOURN	



CHOWAN RIVER BASIN REGIONAL COUNCIL
MARTIN COMMUNITY COLLEGE – WINDSOR CENTER
JUNE 8, 2000

MINUTES

Chairman Brewster Brown called the meeting to order at 3:00 PM. Joan Giordano conducted the roll call. A quorum was present (see attendance list).

A motion was made by Roger Spivey to accept the minutes of the April 6, 2000 meeting as mailed. Second was made by Mr. G. D. Perry, motion passed.

Chairman Brown introduced Liz Noble with the Division of Marine Fisheries. Ms. Noble discussed the Coastal Habitat Protection Plans (CHPP's) that are currently being written. She explained that the Chowan River Basin and Coastal Ocean is in the first round because of herring and beach erosion/re-nourishment issues. The draft plan review and revisions should be completed in August-November of 2000 with the second round of public meetings scheduled for February, 2001. Chairman Brown commented that the more Virginia and inputs upstream are included, the more effective the CCHP's will be. Ms. Noble asked that CHHP program brochures be included with the minutes when mailed to council.

OLD BUSINESS:

DEMONSTRATION PROJECTS UPDATE: Guy Stefanski reported that the Ag Precision project is underway. The contracts for the subsoiler project have been signed. A planning meeting has been set-up for July 14th at Roanoke-Chowan Community College-Small Business Center with Dave Lindbo, Billy Griffin and David Hodges.

STATUS OF NUCOR PERMITS: Joan Giordano stated that NC Marine Fisheries did not issue permits but did have a lot of comments. CAMA permit was received in September of 1999 covering the docking facility, sediment and erosion control, environmental impact mitigation and storm water management. The Division of Water Quality (DWQ) handled the National Pollutant Discharge Elimination System (NPDES) permit. As of April, 1999 NC Air Quality had not completed their permit process. Air quality effects are a big concern. Chairman Brown stated

that he had given Giff Daughtridge (General Manager at Nucor) two applications for membership on the council. He is trying to find someone to serve. Chairman Brown will try to arrange a tour of Nucor in the fall after they are in production. Concern was expressed over the capacity of the application system in Winton to handle waste from the Nucor plant and the new 1,200-bed prison, especially as it relates to nutrients leaching into subsurface flows.

TMDL ALLOTMENTS (CLARIFICATION): Guy Stefanski explained that limits can be set on permits based on the percent of discharge reduction. An upstream discharger could have an advantage over one downstream. The Chowan River Basin is at a disadvantage because of the pollution we receive from Virginia.

COORDINATING COUNCIL UPDATE: Chairman Brown reported that he and Marjorie Rayburn attend the last council meeting. The Coordinating Council approved providing monetary support to Virginia, which would enable them to hire someone to work with both states on water quality issues. Virginia is currently interviewing for this position. Chairman Brown will recommend that EPA help fund this position annually.

NEW BUSINESS AND PUBLIC COMMENT

Concern was expressed that there is a lot of water monitoring going on, but it is not being coordinated at this time. There is a need for a comprehensive monitoring plan. A monitoring plan development workshop should be held that would include scientists, university people and local citizen groups. EPA could pay for a facilitator. More on this at a later date.

Chairman Brown introduced Kate Moore, a DWQ Basin Planner. Ms. Moore is responsible for the Chowan, Pasquotank and Lumber River Basins.
She can be contacted at (919) 733-5083.

Joan requested that council members send her a list of any organizations, agencies, private groups, etc., that would specifically relate to the issues and concerns of the Chowan River Basin. She will put together a master list for contacts.

Plans For Next Meeting: Interest was expressed by council to tour the Nucor facility. Chairman Brown will try to set up a tour of Nucor for our next meeting to be held October 12, 2000.

There being no further business or comments, the meeting was adjourned.

Respectfully submitted,
Nan Laughton
Nan Laughton, Recording Secretary

ATTENDANCE:

Mr. G. D. Perry	Agriculture-Bertie County
Roger Spivey	Silviculture-Chowan County
Nan Laughton	Soil & Water Conservation-Chowan County
Marjorie Rayburn	Env. Science-Gates County
Brewster Brown	Conservation-Hertford County

APNEP Staff:
Joan Giordano, Guy Stefanski

Guests:
Liz Noble, NCMF
Ronnie Smith, National Fish Hatchery
Kate Moore, DWQ

Excused Absences:
Billy Griffin, Bertie County
John Carlock, Virginia
Ernie Brown, Virginia

from draft Environmental Assessment

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APPENDICES :

of environmental consequences and mitigative measures for the preferred alternative site follows in Section 5.0.

4.2 Primary Alternatives

Nucor investigated four primary alternative sites for locating a recycling plate mill, including the preferred alternative site in Hertford County, North Carolina. The other primary sites included: (a) the Corbett site located along the banks of the Cape Fear River in New Brunswick County, near Wilmington, North Carolina, (b) the Green Mount located between Skiffes Creek and Wood Creek near the James River and Williamsburg, Virginia, and (c) the West Point site located along the banks of the Pamunkey River in King William County, Virginia. In compliance with 40 CFR Section 404 (b) (1) guidelines, alternative sites were examined to identify the least environmentally damaging practicable alternative, where "practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes [40 CFR Section 230.3 (q)].

4.3 No Action Alternative

Under the No Action Alternative, Nucor would not construct its recycling mill at the site. Rather, Nucor would be forced to begin a new site selection search for a suitable site in the mid-Atlantic outside the State of North Carolina. The absence of a Nucor steel recycling mill in this region may weaken Nucor's regional, national, and international competitiveness and stability in the steel product business. In such an event, both Nucor and North Carolina would be denied the substantial economic benefits associated with this proposed facility. Also, the No Action Alternative would increase disposal of scrap steel which would otherwise be recycled which would have undesirable environmental impacts.

5.0 EVALUATION OF ENVIRONMENTAL CONSEQUENCES AND MITIGATIVE MEASURES

The environmental consequences of the preferred alternative have been evaluated and are discussed in the following sections. Each section where applicable is a description of specific measures to avoid, minimize, and/or mitigate adverse environmental impacts.

Nucor Steel is committed to following a plan that avoids, minimizes, and/or mitigates adverse environmental impacts during the design, construction, and operation of the proposed mill to the fullest extent practicable and feasible. Nucor seeks to avoid impacts to the environment altogether where possible, minimize the impacts that are unavoidable by using specific technologies or design changes, and where necessary, to provide reasonable and effective mitigation to replace resources that are impacted. For a more complete

discussion of the means by which Nucor avoided adverse environmental impacts through site selection, see Appendix B. For a description of technology and design mitigation measures, see Sections 5.1 to 5.22 below.

5.1 Zoning and Land Use

The proposed site is located in a remote area of Hertford County with only a few residences in the vicinity. Industries located nearby in Hertford County include Perdue Feed Mill, CF Industries, Easco Aluminum, Kerr Plastics and North Carolina Virginia Railroad. Adjacent properties are zoned Residential/Agriculture or Riverside Residential/Camping.

The Hertford County Planning Board approved on August 31, 1998, the recommendation to rezone the proposed site for the steel mill to (IH) Heavy Industrial. Furthermore, the text of the Hertford County zoning ordinance was recommended for amendment to specifically name steel mills as a permitted use in the (IH) Heavy Industrial District. Proposed rezoning of the Nucor site would extend the Heavy Industrial corridor from Tunis to just east of Pilands Crossroads. The Hertford County Board of Commissioners held a public hearing on the rezoning request on October 5, 1998, after which the Board voted unanimously to re-zone the properties needed by Nucor to (IH) Heavy Industrial. The Board also voted unanimously to amend the text of the zoning ordinance to specifically allow for steel mills, steel or other solid waste recycling facilities, and related loading, unloading, or transportation facilities in an (IH) Heavy Industrial zone. The minutes from the Hertford County Board of Commissioners meeting, public hearing, and voting are included as Appendix C.

MITIGATIVE MEASURES - The construction and operation of a steel mill will change the land use on site from industrial pine plantation, agricultural, and residential uses. However, Nucor proposes to minimize visual and noise impacts on adjacent land use by establishing a 200-foot vegetative buffer around the site and using Best Available Control Technology for air emissions sources and through other measures as necessary.

5.2 Local Employment and Economics

In July 1998, North Carolina passed Senate Bill 1569 establishing incentives which could attract Nucor as well as other recyclers to economically depressed areas of the state. The presence of Nucor in Hertford County will help establish an industrial base with numerous good paying jobs. Average pay for non-management employees will be approximately $60,000 per year. This is 375 percent above the present average income in Hertford County.

Nucor is an egalitarian company. Employees at all levels have the same benefits. There are no executive lunchrooms, executive hunting lodges, or company cars for executives. All employees of Nucor participate in a profit sharing plan, which is fed by 10 percent of the pretax profits. Last year Nucor placed $42 million into the plan for its 6,600 employees. Nucor pays a very lucrative production incentive bonus which allows a production employee the ability to double or triple his/her wage. Non-production employees are rewarded with a year-end bonus based on the profitability of their division and the company. In addition, every child of every employee is eligible for a college scholarship of $2,200 per year for up to four years. Last year Nucor invested $1.5 million in the education of its employee's children. Spouses of employees can also qualify for $1,100 per year for education. All employees have excellent health benefits as well.

There is support from Federal, State and Local officials and local citizens (Appendix D) for Nucor to locate in Hertford County. The positive community impacts created by a Nucor mill are also reflected in letters from the Governor of South Carolina, David Beasley, Mayor of Jewett, Texas, and the Mayor of Blytheville, Arkansas (Appendix D), where other Nucor facilities are located.

Professor Stephen Layson, Bryan School of Business and Economics, University of North Carolina at Greensboro, produced a report on the possible Economic Impact of Nucor Steel Recycling Plant on Northeastern North Carolina (Appendix E).

MITIGATIVE MEASURES - Nucor Steel will fund an independent Growth Management Study to best plan for future growth in Hertford County in order to avoid and minimize secondary and cumulative impacts.

5.3 Prime Farmland

Prime farmland is land that exhibits physical and chemical characteristics for maximizing agricultural production and/or that currently is used to produce timber and/or livestock (Farmland Protection policy Act, 7 CFR 658). The Natural Resource Conservation Service, Hertford County Soil Survey indicates that the Prime Agricultural Farmland that occurs on the Nucor site is classified as Craven fine sandy loam (CrA). The area on site and within the utility corridor classified as Craven fine sandy loam is approximately 223 acres. There are about 82,297 acres of prime farmland in Hertford County. Construction and operation of the Nucor recycling mill will impact approximately 0.003 percent of the county's prime farmland.

MITIGATIVE MEASURES - The development on approximately 0.003 percent of the county's prime agricultural land is not significant impact to the total amount of prime agricultural farmland in Hertford County. The discontinuation of approximately 31 acres in agriculture and approximately 700 acres in

silviculture will preclude the use of pesticides and herbicides that are common in agriculture and silviculture operations. The Natural Resources Conservation Service (NRCS) may monitor the loss of prime agricultural land in Hertford County and work with Hertford County officials to prevent a significant amount of prime agricultural land from being lost in the future. Nucor Steel will fund an independent Growth Management Study to best plan for future growth in Hertford County.

5.4 Utility Corridors

Utilities, including railroad line, natural gas line, and 230kv electric power line will be brought to the site along a single access corridor (Figure 2) provided and funded by Nucor. Three wetland areas (2.91-acres total) are located within the utility right-of-way. Surveys for cultural resources and endangered species include the proposed utility corridor. No cultural resources or protected species were identified within the proposed right-of-way. Mechanized land-clearing will clear forested areas within the portions of the utility corridor needed for rail, gas, and electricity. Minimal wetland impacts are expected within the utility corridor.

5.4.1 Electricity

The access corridor is a 250-foot wide right-of-way that is approximately 2.7 miles in length from the site to the existing railroad and natural gas connections. The electric power connection is approximately 2.2 miles farther from the utility corridor in Winton. North Carolina Power will provide electricity for the proposed recycling mill and will construct the transmission lines. North Carolina Power (a subsidiary of Virginia Power Company) is extremely sensitive to any potential impacts on the environment that may be caused by the construction of transmission lines and will obtain any required permits and approvals.

MITIGATIVE MEASURES - The electric power line will be above ground and the supporting power poles will avoid and/or minimize any impacts to wetland areas (Appendix F). Following Nationwide Permit 12 guidelines for utility line installation will ensure that no permanent impacts to wetland functions or values occur.

5.4.2 Rail

Nucor plans to use rail cars to bring approximately 20 percent of scrap steel to the site and deliver approximately 1000 tons of finished product a day. Nucor estimates that there will be 126 inbound rail cars a week. Ninety-one of these rail cars will be empty and used for delivering finished product. Thirty-five of these rail cars will bring scrap steel or other deliveries. The weekly outbound trains will have a total of 91 rail cars of finished steel product and 35 empty rail cars. The North Carolina and Virginia Rail Road will

use an existing rail bed, that is approximately one mile in length from the existing track, to access Nucor's utility corridor. Correspondence from the North Carolina and Virginia Rail Road indicates that during reinstallation of this mile of track, they anticipate that the removal of small brush, cleaning of the existing ditches on each side, and smoothing the existing subgrade is all that will be necessary to reconstruct this segment of track.

MITIGATIVE MEASURES - Best Management Practices will be used within the wetland areas of the utility corridor during the construction of the crossing in order to minimize the temporary impacts to wetland resources. Rail to the utility corridor will be over an existing rail bed which will not create any additional disturbances to the environment.

5.4.3 Natural Gas

The gas line will be installed underground and adhere to Section 404 guidelines for utility line crossings in jurisdictional wetland areas. This includes restoring wetland topography to the original contour elevation and replacing the original wetland topsoil on the surface.

MITIGATIVE MEASURES - Best Management Practices will be used within the wetland areas of the utility corridor during the installation of the natural gas line in order to minimize the temporary impacts to wetland resources. Following Nationwide Permit 12 guidelines for utility line installation will ensure that no permanent impacts to wetland functions or values occur.

5.5 Wetlands

Land Management Group, Inc. delineated portions of the Tunis Site and identified several areas of jurisdictional wetlands and intermittent drainage ways. Figure 1 indicates jurisdictional areas that will be avoided and preserved as well as the unavoidable wetland impacts.

Nucor will build its facilities in the center of the selected site. Based upon the USACE verified wetland delineation (Appendix G), there are 16.38 acres of jurisdictional wetlands on the site. Nucor will avoid impacts to 14.26 acres of wetlands, which will be preserved and protected by an approximate 100 foot upland buffer. Nucor will request a permit to impact less than 3 acres of unavoidable wetlands within the project site to accommodate construction of the mill, railroad, and ponds. There are 2.91 acres of wetlands within the utility corridor. Installation of utilities will require that less than one acre of wetlands be impacted to construct the railroad crossing and natural gas line. Minimal temporary fill impacts are needed for portions of utilities installation.

Additional areas on the western portion of the site are undergoing further soil and hydrologic testing to determine whether any additional jurisdictional areas should be included. The soils in the areas of further study are mapped by the NRCS and shown in the Hertford County Soil Survey as having Leaf Loam Soil, which is listed as a hydric soil. However, further studies show that the property has undergone numerous impacts associated with historical silvicultural activities, including ditching and bedding. Verification of the jurisdictional wetlands/Waters of the U.S. boundaries will be made by the USACE. The area of the site that is undergoing further wetland determination is not necessary for the proposed project.

MITIGATIVE MEASURES - Nucor conducted an extensive search for suitable suites throughout the southeast. See Appendix B for Section 404 Permit Application, Alternative Analysis For Recycle Steel Plate Mill In Hertford County, North Carolina, Revised December 11, 1998. The preferred alternative has the least acreage of wetland/Waters of the U.S. impacts of any of the primary alternatives investigated. In addition, Nucor drafted and revised numerous design layouts to minimize and avoid wetland impacts. The final design limits wetland impacts to less than 3 acres. For a project this size in the southeast coastal area of the U.S., unavoidable impacts to only 2.12 acres clearly demonstrates avoidance of wetlands to the greatest extent possible.

The preliminary compensatory wetland mitigation plan to offset unavoidable impacts to wetland resources proposes to create 8.37-acres of new wetlands on-site. These wetlands were designed to preserve and enhance the functions of the impacted wetlands. A total of 14.46 acres of jurisdictional wetlands will be preserved as part of the proposed mitigation plan. Also a 100-foot upland buffer will be maintained around the preserved wetlands where space allows.

5.6 Terrestrial Resources and Protected Species

The need for on-site surveys to determine the potential for occurrence of animal and plant species listed as endangered or threatened by current Federal regulations [Federal Endangered Species Act of 1973 (16 USC 1531-1543) was investigated. Correspondence from the U.S. Fish and Wildlife Service indicated that the only protected species which potentially could occur on the site is the red-cockaded woodpecker (*Picoides borealis*), which is federally listed as an endangered species. The red-cockaded woodpecker requires open stands of pines 60+ years old for roosting/nesting habitat. Preferred foraging habitat is pine and pine/hardwood stands 30+ year old. Understory vegetation less than 5 feet is also generally preferred. The existing pine forest on the site consists primarily of a 15 to 40 year old loblolly pine plantation planted by Champion International and Union Camp Corporation. Dr. Jay Carter, III and Associates, Inc. have been

retained by Nucor to conduct field surveys for the presence of the red-cockaded woodpecker on the project site. Initial investigations of the site indicate that no cavity trees and very little suitable habitat are located on or within one-half mile of the property. The Biological Assessment and Addendum to The Biological Assessments are attached in Appendix H.

Suitable habitat for several species of concern that may occur in the county are not found on site. This includes habitat for the Henslow's sparrow (*Ammodramus henslowii*), two-spotted skipper (*Euphyes bimacula*), frosted elfin (*Incisalsa irus*), Hessel's hairstreak (*Mitoura hesseli*), coast jointweed (*Polygonella articulata*), and conferva pondweed (*Potamogeton confervoides*).

The bald eagle (*Haliaeetus leucocephalus*) and peregrine falcon (*Falco peregrinus*) were not observed on-site. No bald eagle nests were observed on-site. Suitable foraging habitat for the bald eagle and peregrine falcon is limited by the dense pine plantation on-site. The dock facility should not preclude use of the river by either the bald eagle or the peregrine falcon.

No resident protected species are known to exist on the Nucor site. Site development will minimize impacts to sensitive habitats, wetlands, and the Chowan River. Impacts to fish and wildlife resources will be limited to the immediate project site. Plant communities and vegetation types that would be affected by the proposed project are common and well represented throughout the region. Though noise from the mill will exceed existing background noise levels, the large project site and forested buffers will be adequate to contain noise levels and prevent alteration of wildlife behavioral patterns.

MITIGATIVE MEASURES - Access roads to the mill will be posted with reduced speed limits and wildlife crossing signs where appropriate. Nucor will develop and implement a wildlife habitat management plan with input from the North Carolina Wildlife Resources Commission and the USFWS for the undeveloped portions of the project site. Nucor will implement the best technology available to minimize noise levels. Nucor will also maintain a vegetated 200-foot buffer around the perimeter of the site. The buffer of trees left around the perimeter of the site will dampen noise levels. Most of the steel making processes occur indoors; therefore, any noise generated is dampened substantially. The fans of the negative pressure baghouse will be acoustically engineered to minimize noise. Only lighting necessary to ensure normal and safe operation will be used. The lighting used will be installed to only light the required areas during operations.

5.7 Aquatic Resources and Protected Species

Research indicates that herring are present in significant numbers within the Chowan River from February to May. This herring fishery provides a valuable commercial resource to the fishermen and State of North Carolina. The commercial fishing season for Herring is between January 1 and April 14 while the spawning season is between March and May. The Chowan River also contains American shad, hickory shad, and striped bass, all of which are taken commercially and recreationally.

A letter dated June 9, 1998 from the North Carolina Division of Marine Fisheries to the NOAA General Counsel for Fisheries, indicated that on April 18, 1998, one federally endangered shortnose sturgeon (*Acipenser brevirostrum*) was taken in gill nets used as part of an ongoing fisheries independent sampling program for striped bass in the Albemarle/Roanoke system. This sampling program is conducted by the N.C. Division of Marine Fisheries. The sturgeon was taken in Batchelor Bay near the mouth of the Roanoke River, approximately 30 miles downstream from the Nucor site. The Roanoke River is also used for commercial barge traffic. Both the Chowan and the Roanoke Rivers empty into the Albemarle Sound near the Town of Edenton. Prior to this take of one shortnose sturgeon, the previous known occurrence of record in this area was in 1881, near Salmon Creek. The shortnose sturgeon is believed to occur in major river systems from the St. John's River, Florida to the St. Johns River, New Brunswick, Canada. Most confirmed occurrences of the shortnose sturgeon in North Carolina have been within the Cape Fear River.

"The USFWS believed that the population level of the shortnose sturgeon has declined because of pollution and overfishing, both directly and incidentally in shad gillnets." Other impacts include habitat alterations from dredging or disposal of fill materials into rivers (Synopsis of Biological Data on Shortnose Sturgeon, *Acipenser brevirostrum*, NOAA Technical Report NMFS 14, 1984). Since no dredging is proposed for the Nucor project and construction activities for the dock will cause only a temporary impact, Nucor's proposed project on the Chowan River are not expected to have any significant impact on the shortnose sturgeon.

The total river bottom area impacted by the 24-inch diameter dock pilings and 6-foot diameter dolphins is approximately 770 square feet. The open-water non-vegetated area shaded by the dock is approximately 20,000 square feet.

Impacts to potential mussel habitats in the Chowan River will be limited to the area of construction for the dock. During barge unloading and loading some aquatic life may temporarily move away from the dock. Prop wash from vessels propelling the river barges may dislodge some aquatic organisms from the dock pilings or sediments from the dock, however, this is a short lived event and restricted to the immediate dock

area. Nucor will conduct an aquatic survey for mussels at the dock site prior to construction and report results to review agencies.

MITIGATIVE MEASURES - Nucor's plans for construction of the dock will avoid the most important periods of time for these species of fish. Nucor will fully comply with the moratorium on construction in the Chowan River during the spawning season for anadromous and resident species. In addition, the design of the dock will include all practicable measures to avoid disturbance to the fishery and freshwater mussels. The dock as described below in section 5.17 is designed on pilings so as to minimize any disturbance to the natural flow of the river and it should be noted that the pilings may create new habitat for some fish species.

5.8 Cultural Resources

Terrestrial and underwater archeological investigations for the proposed site were completed by Brockington and Associates and Mid-Atlantic Technology, Inc., respectively. Eleven sites and nineteen isolated finds were recorded on the total project site and three underwater magnetic anomalies were recorded along the shoreline. Brockington and Associates recommends that only one (state site 31HF223) of the eleven identified land sites is potentially eligible for listing with the National Register of Historic Places and North Carolina State Historic Preservation Office (SHPO). The location of this site is in the northeast corner of the property and will not be disturbed. Mid-Atlantic Technology recommends that a minimum 200-foot-radius no-impact buffer zone be placed around one underwater target. No sites were identified in the center portion of the site to be developed for the mill. The survey reports of both investigations are attached in Appendix I.

MITIGATIVE MEASURES - Based on the final decision by the SHPO, Nucor will enter into a MOA with the appropriate parties, including the SHPO, either to preserve the land site or recover the land site with a recovery plan approved by SHPO. Nucor will not impact the underwater target during site development or construction and operation of the dock and will maintain the recommended buffer zone.

5.9 Scenic and Recreational Areas

The Chowan Swamp Game Land is located on the northern shore of the Chowan River. This 9,000 acre area is available to the public for hunting and camping. Primary game species hunted in this area include fox, black bear, squirrel, racoon, deer, and waterfowl. Fishing for warm water fish occurs as well. The Chowan Swamp Game Land is approximately 3,500 feet north of the steel recycling mill footprint. Other parks and recreational areas in the area include Merchants Millpond State Park approximately 7 miles northeast of the Nucor site. The Chowan River is not designated as a Wild and Scenic River.

MITIGATIVE MEASURES - Nucor has designed and engineered the site layout and operations the best possible way to minimize impacts associated with air quality, water quality, aesthetics and noise. Nucor is also preserving a 200-foot buffer of trees around the site. The haul road from the dock to the steel mill is designed with curves to eliminate direct site lines to the mill from the Chowan River. A combination of the mitigative measures described in Section 5.1 to Section 5.22 and the distance of the steel recycling mill from the Chowan Swamp Game Land and Merchants Millpond State Park avoids any potential adverse impacts.

5.10 Ground Water

Nucor recycles the majority of water it uses in its steel manufacturing process; however, the mill operations will require an additional daily water supply, which is estimated to be less than one million gallons per day. The range of ground water usage will be approximately from 471,000 gallons to 993,000 gallons per day based on various operations running and/or idle. Nucor will withdraw ground water from the upper Cape Fear Aquifer and the amount of water required by the facility should have a minimal impact on the aquifer. The Hertford County site is not in a Capacity Use Area as defined by the State of North Carolina. Additionally, correspondence from the North Carolina Division of Water Resources (DWR) dated October 19, 1998 (Appendix J) indicates that this aquifer is adequate to supply the necessary daily water needs for the recycling mill.

MITIGATIVE MEASURES - Nucor has contracted Groundwater Management Associates, Inc. and Dr. Richard Spruill of East Carolina University to design the well field to minimize any potential impacts (Appendix J). In addition, Nucor submitted a letter dated November 5, 1998 (Appendix J) to the Hertford County Manager assuring the county that Nucor will work with county officials and property owners if any nearby ground water wells are directly affected by Nucor water usage and to provide those affected property owners with a quick and efficient remedy.

5.11 Potable Water

Potable water is to be provided from on-site ground water wells. The withdrawal of ground water for potable use and process water use will be less than 1 million gallons per day.

MITIGATIVE MEASURES - See section 5.10 Ground Water

5.12 Surface Water Quality and the Eutrophication of Receiving Waters

The project area is located within the Chowan River Basin. The project site is located on the southern shore of the Chowan River approximately seven miles downstream of the Town of Winton. This portion of the Chowan River is classified as a Nutrient Sensitive Water (NSW). NSW is subject to growth of microscopic or macroscopic vegetation that require the control of nutrient inputs. This section of the Chowan River is also a Class B water. Under the North Carolina Water Supply Watershed Act (15A NCAC 2B) , the "best usage" of Class B waters for which they must be protected includes primary recreation, wildlife, fish, and other aquatic life propagation and survival.

5.12.1 Process Water

The process water systems for the plate mill will include various holding ponds, cooling towers, pump houses, make-up water supply, internal recycling, closed/open piping throughout the facility, water level controls, water treatment, and mill scale handling (Figure 3). There will be NO discharge of process water into the Chowan River.

Essentially two water systems will be utilized at the facility. One is a non-contact water system. This system is for all closed piping systems such as heat exchangers, air conditioners, water-cooled piping, etc. This water does not come into "contact" with the hot steel either during melting or rolling processes. Water treatment will be used to prevent potential scaling and corrosion problems that could occur otherwise. This water is continuously recycled through cooling towers and back through the system. Most losses are due to evaporation within the cooling towers. An engineered and impervious holding pond will store the needed water during operation and maintenance activities. This holding pond requires infrequent cleaning and maintenance since it does not contact the hot steel. During cleaning and maintenance activities, the water will be cascaded to the contact water system or conveyed to another holding pond either for use by the steel slag processor for cooling the hot molten slag or utilize a treatment technology and be reused back in the process water system.

The other system is known as the contact water system. This system is for all water that comes into contact with the hot steel either during the melting or rolling processes. Generally, water treatment other than settling and filtering is not needed in this system. During the melting and rolling processes, mill scale (bits and pieces from the steel when cooled breaks off) is generated and collected within a settling basin. The settling basin is an engineered and impervious holding pond. The mill scale can then be removed via mechanical means and allowed to de-water within or on a concrete platform, and the water is directed back into the water system. A majority of the water losses are due to evaporation from coming into contact with

the hot steel. These basins will require periodic cleaning to remove mill scale and can generally be done during operation. In some instances, an entire system will need to be cleaned, and the water will then be conveyed to another engineered and impervious holding pond. The water may then either be used by the steel slag processor for cooling the hot molten slag or utilize a treatment technology and be reused back in the process water system.

Make-up water: This water will be drawn from several ground water wells installed onsite as needed. The level control systems will add water when needed via pumps to the particular water system. However, if at all possible, other waters either from the holding ponds or contact or non-contact systems will be used prior to using well water so that recycling may be maximized. Also, water will be drawn from stormwater ponds to use in the process water system.

The engineered and impervious holding ponds will be used, as mentioned above for several purposes. One for cooling the hot molten slag handled by the steel slag processor. Also the water may utilize a treatment technology and be pumped back into the process water systems for reuse as needed. This pond may also utilize water from the various storm water ponds, if water levels in the process water systems and other holding ponds are low.

This pond will be designed with sufficient freeboard to prevent a potential discharge due to rain events. The design features will meet regulatory requirements. This pond will need infrequent maintenance and cleaning to remove sediment buildup. The material removed will be tested accordingly and analyzed to determine whether it can be handled and recycled as mill scale or properly disposed offsite in a permitted facility. Water from this pond will be reused, land applied, or taken to a publicly owned treatment works (POTW), as needed, following cleaning, very heavy rain events, or other potential conditions arising from the operation of the facility. The pH of the process water will essentially be neutral, approximately between 6-8.

MITIGATIVE MEASURES - Nucor recycles as much process water as possible to minimize withdrawals of groundwater. The process water will go through various treatment technologies such as: sand filters, flocculation, thickening, filter press, nanofiltration, reverse osmosis, carbon absorption, etc. All holding ponds will be engineered and impervious to the surrounding area. All systems will be designed so that no discharge will take place, even during rain events in order to recycle as much water as possible.

5.12.2 Sanitary Sewage

Nucor will connect to the Town of Winton waste water treatment facility for the disposal of sanitary sewage. The Town of Winton and N.C. Division of Water Quality (DWQ) indicate that the DWQ would recommend the issuance of the sewer permit to accommodate up to 20,000 gallons per day from Nucor (Appendix K). Nucor's facility requires an expanded capacity of 12,000 gallons. Nucor will also pay expansion costs to the Town of Winton for waste water facility expansion if needed to accommodate Nucor.

MITIGATIVE MEASURES - Nucor will construct a temporary facility on site to handle sanitary sewage, if needed. This temporary waste water treatment facility will meet the requirements as set forth by state and federal guidelines until a permanent connection to Winton's system can be completed. Material will either be hauled off-site by truck for land application at a permitted facility or delivered to the Town of Winton wastewater treatment facility. There will be NO discharge of sanitary waste into the Chowan River or its tributaries from the Nucor mill.

5.12.3 Stormwater Management

The preliminary site plan (Figure 1) shows the approximate location of stormwater management ponds. The final location and design of the stormwater management ponds will be in full compliance with the guidelines set forth in the North Carolina Stormwater Management Policy and in accordance with necessary authorizations from NCDENR. This includes the use of guidelines as outlined in Stormwater Best Management Practices (N.C. Department of Environment, Health, and Natural Resources, 1995).

As discussed above, the project area lies in the Chowan River Basin, classified by NCDENR as NSW-B (Nutrient Sensitive Waters, Class B). Design parameters for stormwater considerations in a coastal county dictate that the project be deemed a high density development, meaning that stormwater measures shall have an engineered control structure and control runoff for a minimum one inch of rainfall. Grassed water quality swales and other low density stormwater measures will also be utilized in areas of the site where impervious surfaces are less concentrated, such as in the utility corridor and along the proposed rail lines through the site.

The possibility of catastrophic failure of the Nucor stormwater ponds will be minimal. All of the stormwater ponds on the Nucor site will be dug into existing ground. The permanent pool and the ten year storm will be contained at an elevation that are below the surrounding existing grade elevations. Storm events above the 10 year 24-hour storm will discharge over a emergency overflow weir, that has been designed to safely pass the 100 year 24-hour storm event while maintaining the pond water at an elevation that will be below the surrounding existing grade elevations. All pond slide slopes shall be no greater than 3 to 1 and pond tops,

bottoms and side slopes shall be compacted to a minimum density of ninety-five (95) percent of the maximum dry density as determined by the modified proctor complication test, and grass cover will be established on all exposed surfaces of the ponds, further reducing the possibility of soil erosion and pond failure.

The majority of the steel recycling mill will be located near the center of the site and, thus, most of the impervious areas will be concentrated near the center of the site. Stormwater runoff from the mill will be collected and conveyed via drainage ditches to engineered wet detention ponds for treatment. At the property perimeter, a 200' undisturbed buffer of planted pines will create a screening effect from adjoining landowners. Existing and proposed features, including but not limited to boundary topography, ditches, and wet detention ponds, will ensure that stormwater runoff is retained on the interior of the site and any stormwater discharge from the site will occur through a few of several existing outfalls.

Wet detention ponds are designed and configured to provide significant removal of pollutants from incoming stormwater runoff. Design parameters include the provision of sufficient surface area to promote settling of particulate matter. In this case, sufficient surface area will be provided to remove greater than 90 percent of Total Suspended Solids (TSS).

MITIGATIVE MEASURES - Wet detention ponds will provide sufficient storage above the normal pool elevation to retain the first inch of runoff for a minimum of two days and a maximum of five days. The stormwater ponds for this site are larger and are designed to store water from a ten-year 24-hour storm event. The result of these basic design criteria, which exceeds regulatory requirements, is an engineered stormwater management system that allows the suspended sediments (and potential pollutants attached to the sediment) to settle out of the water before it is discharged to downstream waters. Retention of this stormwater runoff ensures that the water will be discharged at a rate such that any potential downstream impacts are minimized. See Section 5.17 for measure to control stormwater on the dock.

5.13 Toxic/Hazardous & Solid Waste

KO61 – Electric Arc Furnace dust generated from the primary production of steel is the only hazardous waste. Dust will be captured by a baghouse with a 99.5 percent collection efficiency and conveyed to a silo and then either loaded into trucks or railcars. The material is kept within closed conveyor systems at all times, even during loading. The material is either transported off-site either to a recycler for the recovery of various metals such as zinc, lead and cadmium or is stabilized and disposed of properly at a permitted disposal facility. If recycled, the metals are then reused to make new products again.

Approximately 1-2 ton(s) of municipal trash would be generated per day at the mill. This material would be primarily collected from offices, cafeteria, warehouses and operations within the recycling mill. Waste would be disposed of in a county or regional landfill by the local collector. One local, privately owned landfill has over 800 acres and at least 20 years of capacity for solid waste disposal. The landfill is fully permitted by NCDENR. The facility has a 2 foot compacted clay liner, a synthetic liner above the clay, a 2 foot protective sand layer above the synthetic liner as well as a ground water monitoring system.

MITIGATIVE MEASURES – Nucor selected a scrap charging technology - CONSTEEL – which pulls the hazardous waste dust from the furnace over incoming cold scrap on it's way to the baghouse. This technology minimizes the amount of dust generated to the baghouse since some of the dust falls into the scrap and is recharged into the furnace.

Solid waste generated by Nucor's operations include but cardboard, paper, rubber (mostly tubing), wood, plastic, fluorescent light bulbs, general cafeteria office refuse, tires, used petroleum products, copper, aluminum, electrical wire, motors, etc. Nucor will establish a system whereby a majority of the above mentioned waste materials are recycled if practicable and economically feasible. Most Nucor facilities currently have a system where a majority of its materials are recycled. The same type of system will be established at the proposed Hertford County facility.

5.14 Noise

The proposed Nucor Steel mill is designed to minimize noise levels associated with plant operations. The location of the steel mill is approximately in the center of the 990 acre site to allow for a maximum buffer area. Noise is generated from various facility processes (EAF, baghouse, material handling, vehicles, railroad, etc.). Distances from the center of the site to the property boundaries are as follows.

- East side of Consteel - Castelow Road is the property boundary approximately 4,050 feet to the east.
- South Side of Caster - Bazemore Road is the property boundary approximately 3,000 feet to the south.
- West side of melt shop - property boundary is approximately 2,900 feet to the west.
- Northwest side of melt shop - corner property boundary (Chowan River and Pettie Shore) is approximately 3,600 feet to the northwest.
- North side of melt shop - Chowan River is approximately 2,150 feet to the north. The Chowan River is approximately 1,400 feet wide at this location.

The distance from the mill operations to adjacent properties appears to be great enough to ensure that noise levels will not be a nuisance or otherwise adversely affect public health and welfare. Information regarding noise generation and noise levels for existing Nucor facilities are included in Appendix (L).

MITIGATIVE MEASURES - Nucor will implement the best technology available to minimize noise levels. Nucor will also maintain a vegetated 200-foot buffer around the perimeter of the site. The buffer of trees left around the perimeter of the site will dampen noise levels. Most of the steel making processes occur indoors; therefore, any noise generated is dampened substantially. The fans of the negative pressure baghouse will be acoustically engineered to minimize noise. Most of the noises will be greatly attenuated by dispersion and ground absorption due to the distances it has to travel and should reach acceptable levels before reaching sensitive receptors. Therefore, it is not anticipated that noise will cause an adverse affect.

5.15 Lighting

Night time lighting of the proposed mill and port may be visible to some nearby residents. The building and radio tower will be lighted as required by the Federal Aviation Administration.

MITIGATIVE MEASURES - Though light from the mill will exceed existing light levels, only lighting necessary to ensure normal and safe operation will be used. The lighting used will be installed to only light the required areas during operations. Nucor will also maintain a vegetated 200-foot buffer around the perimeter of the site. The buffer of trees left around the perimeter of the site will reduce light levels to prevent alteration of wildlife behavioral patterns off-site.

5.16 Navigation

The Chowan River varies in width along the site boundary from approximately 800 feet wide at the most upstream boundary to approximately 2,000 feet wide on the downstream boundary. The Chowan River at the proposed dock location is approximately 1,400 feet wide. Hopper barges will be used to bring scrap steel to the Hertford County site. These barges have an 8-foot draft when fully loaded. Steel scrap will be transloaded to river barges in either Norfolk, Virginia or Morehead City, North Carolina. White Stack Maritime Corporation describes in Appendix M the proposed routes from Norfolk, Virginia and Morehead City, North Carolina and their suitability for river barge shipping. White Stack Maritime Corporation plans to conduct maintenance and repair activities on the floating equipment at deep-water ports.

The depth of the channel is sufficient to allow river barge traffic to the Nucor steel mill site with no additional dredging. In addition, the depth of the Chowan River adjacent to the site is suitable so that no dredging is required to allow the river barges access from the main channel to the dock. Nucor does not have any plans for dredging of the Chowan River. Nucor plans to ship approximately 70 percent (approximately 840,000 tons annually) of its scrap to this site by barge. Depending on the size of the river barge, two to four barges may arrive a day, but should average about 11 barges per week (572 annually). Barge types will be 195 feet long and 35 feet wide and/or 260 feet long and 52.5 feet wide. Tugboats will push the smaller barges two at a time. Nucor will ship approximately 2 to 4 barges a week (3000 to 4500 tons) with finished products. The remainder of the barges will leave empty.

River barges have utilized the Chowan River for many years to ship industrial goods. The only commercial barge traffic currently operating on the Chowan River is operated by Union Camp Corporation. Union Camp owns a paper mill at Franklin, Virginia on the Black Water River. (The Black Water and Nottoway Rivers come together at approximately the North Carolina/Virginia state boundary and shortly thereafter join with the Meherrin River to form the Chowan River).

Since 1930, Union Camp has been barging pulp wood from its lumber yards located in Williamston, North Carolina, Edenton, North Carolina and South Mills, North Carolina up the Chowan to its paper mill in Franklin, Virginia. In peak years, Union Camp has averaged five tows per week with four barges and a tug boat in each tow, or an average of twenty barges per week. Each barge contains about 425 tons of 16 foot pulp wood, or approximately 1,700 tons per tow. Each barge is approximately 130 feet long, for a barge train (excluding the tug boat) of approximately 520 feet. Available records from the U.S. Army Corps of Engineers, Waterborne Commerce of the United States, show that in 1995 and 1996 there were over 1,100 barge and tug trips each year on the river. The preliminary, unadjusted number of total barge and tug trips thus far for 1997 is 528 trips (Waterborne Commerce Statistics Center).

Over the past three years, however, the scope of Union Camp's barging operation has diminished and during the last year it has averaged only two tows per week of four barges per tow, or an average of eight barges per week (416 annually). Union Camp has recently made a decision to transport pulp wood to its Franklin paper mill by truck in lieu of barges. Accordingly, Union Camp intends to terminate all barge operations on the Chowan River by March 31, 1999. This decrease in barge traffic will approximate the increase in barge traffic as a result of Nucor's operation.

MITIGATIVE MEASURES - Selection of this site does not require dredging for river barges access. Hopper barges are equipped with hatch covers to provide complete containment for the material transported and are also double hulled vessels that will maintain buoyancy with a penetration to its shell plating. Barge traffic on the Chowan River resulting from Nucor's operations will be more than off-set by the decrease in barge use from Union Camp operations.

5.17 Dock

The proposed dock design will be a poured concrete deck on pipe piles measuring 24 inches in diameter. These piles will be spaced on approximately 10 foot centers. The dock will have a surface area approximately 200 feet by 100 feet (20,000 sq. ft.) and will be 12 feet above normal water elevation (Figure 4 and 5). Water depth at the face of the dock will be 14 feet deep. The dimensions of the dock are necessary to provide reasonable water depth at the face of the dock and adequate room for trucks, cranes, and personnel to maneuver safely. Correspondence from the USACE dated December 9, 1998 (Appendix N), indicates that the location and size of the proposed dock will not conflict with the federal channel or federal channel setback policy. Construction and operation of this dock facility will not interfere with other shipping activities on the Chowan River. A line of mooring dolphins will measure approximately 800 feet from the most upstream dolphin to the most downstream dolphin. The dolphins will be pipe piles measuring 6 feet in diameter. Solar powered lights will mark the most upstream and most downstream dolphins. This dock will support equipment to unload steel scrap from several river barges a day, as well as load finished product. Construction of the dock and dolphins will only cause a temporary impact to the river bottom.

MITIGATIVE MEASURES - This dock does not have an obstruction type of foundation and does not have a retaining wall in the river. The piling design of the dock minimizes the impact to the natural flow of the Chowan River. Nucor Steel is aware of the productive fisheries within the Chowan River and Albemarle Sound. Construction of the necessary docking facility is being planned around seasonal spawning seasons of the herring and other fisheries so as to avoid and minimize temporary impacts. The width of the dock, 200 feet, will allow the crane to unload the barges without ever swinging its load over open water, thus providing an additional safeguard against falling scrap from reaching the river. The dock facility may also provide positive effects on fish and other aquatic life. The dock and dolphin piling will create some new habitat and substrate for benthic organisms that serve as food for fish. In addition, the dock and piling structures may provide additional protective cover for fish.

The dock will be slightly inclined (approximately 1 percent slope) toward land in order to direct stormwater away from the Chowan River to the landside of the dock and into a series of equally spaced drains. This

stormwater will be carried from the dock through a series of pipes to a sump where it will be pumped to appropriate stormwater control measures. The stormwater drainage and pumping system will be designed to remove water from the dock at a rate in excess of design storm requirements. In the event of electrical failure during a storm, the curb and wall system around the dock will allow the total volume of a 24-hour 1.5 inch storm event to be contained until pumping is restored. There will also be a backup pumping system to remove stormwater in case of a mechanical failure to the first system. To prevent scrap material and stormwater from falling into the Chowan River the dock will have reinforced concrete barricades around the dock and along the ramp from the dock to the shore. There will be a raised section placed on the ramp that will prevent stormwater from leaving the dock via the road.

5.18 Transloading Sites

Nucor and the David J. Joseph Company are investigating the best site for transloading scrap steel from ocean barges to river barges. This investigation identified numerous facilities in Norfolk, Virginia and Morehead City (Appendix O). While no decision has been made on final transloading site selection, the existing dock facilities appear to be adequate for transloading scrap steel. Negotiations are currently underway from all involved to further substantiate the best opportunity available. Nucor will not be responsible for the transloading of barges. The selection of the transloading site(s) will depend on the initial embarkment site and the logistic evaluation made by the contracted barge company and the David J. Joseph Company.

5.19 Air Quality

The existing air quality of Hertford County and surrounding area is described as attainment, because measured concentrations are below the national ambient air quality standards. For an attainment area, any new major emissions source must obtain a PSD air permit from the NCDENR Division of Air Quality (DAQ) prior to construction. The application for a Prevention of Significant Deterioration (PSD) permit was prepared by Dames and Moore for the Nucor Steel mill and submitted August 25, 1998. The air quality permit applied for by Nucor includes the main mill and slag processing. The U.S. Environmental Protection Agency (USEPA) and DAQ are currently reviewing the permit application. The PSD review process considers the following:

> (1) A demonstration of the best available technology (BACT) for proposed emission sources, taking into account energy, environmental and economic impacts as well as technical feasibility; (2) An ambient air quality impact analysis to determine whether the allowable emissions from the mill along with other emissions sources would cause or contribute to a violation of the PSD air quality

increments and ambient air quality standards (AAQS); (3) An assessment of the direct and indirect effects of the mill on general growth, soil, vegetation, and visibility; (4) A 1-year ambient air quality monitoring program, if representative data are not available; and (5) public comment, including an opportunity for a public hearing.

The ambient air quality impact analysis was performed using USEPA's Industrial Source Complex dispersion model with 5 years of meteorological data (Norfolk surface data and Wallops Island upper air data).

With respect to consumption of the allowable PSD increments, the maximum annual average NO_2 concentration of 3.3 ug/m3 is below the Class II increment of 25 ug/m3. The maximum annual and highest 24 hour average PM10 concentrations of 4.1 and 19.7 ug/m3, respectively, are below the corresponding PSD increments of 17 and 30 ug/m3. The maximum annual average SO_2 concentration of 1.5 ug/m3 is below the increment of 20 ug/m3. The highest, second highest 24 and 3 hour average SO_2 concentration of 20.6 and 70.1 ug/m3, respectively, are below the respective increments of 91 and 512 ug/m3.

Dispersion modeling analyses of the mill and other major sources were conducted to demonstrate compliance with ambient air quality standards. The model results are well below the AAQS as presented below:

POLLUTANT	AVERAGING PERIOD	CONCENTRATION (ug/m^3) PREDICTED	AAQS
NO_2	Annual	35.5	100
SO_2	Annual 24 Hour 3 hour	15.0 49.6 130.1	80 365 1300
TSP	Annual 24 Hour	34.6 100.9	75 150
PM_{10}	Annual 24 Hour	24.2 51.3	50 150
CO	8 Hour 1 Hour	1172.8 2103.5	10,000 40,000

The proposed mill will emit trace amounts of air toxic pollutants. Modeling analyses were conducted to demonstrate the air quality impact is below the acceptable ambient concentrations. Since the proposed mill is located approximately 105 kilometers from the Swanquarter Wildlife Refuge (PSD Class I area), modeling analyses were conducted and demonstrate the proposed mill does not have an adverse impact on PSD air

quality increments, acid deposition and regional haze.

A qualitative analysis of the impacts on soil and vegetation associated with the proposed mill was conducted using concentrations which are well below the standards. Based on the impact analyses presented above, the air quality concentrations in the vicinity of the mill will be below the ambient air quality standards. Further, there is sufficient air resource available to accommodate future growth in this area.

MITIGATIVE MEASURES - BACT analysis were conducted for each proposed emission source. All combustion sources will use low-NO_x burners to reduce NO_x emissions. The EAF will use a forth-hole evacuation system and a downstream baghouse to minimize particulate emissions. The direct evacuation system is also an effective control for CO emissions. The baghouse will also control emissions from the ladle metallurgy station and caster captured by the roof canopy system. SO_2 and VOCs are controlled by a scrap management program and using low sulfur content materials in the EAF. Fugitive particulate emissions from slag processing operations will be controlled using water sprays. Fugitive emissions from vehicular traffic on unpaved roads will be minimized by the application of an asphaltic emulsion and posted speed limit. Displacement air bin filters will be used to minimize particulate emission losses from material storage bins.

5.20 Bypass Road

A new hard surface road will be proposed that connects River Road/State Route 1400 with Bazemore Road/State Route 1445 (Figure 6). This road will route traffic from River Road around the Nucor property to the Bazemore Road. This road right-of-way is entirely within Nucor's property boundaries and costs associated with building this road will be paid for by Nucor. The new road will then be dedicated for public use. The right-of-way has been surveyed for the federally endangered red-cockaded woodpecker, wetlands, and cultural resources. None of these protected resources are within this right-of-way. The new road right-of-way is approximately 3000 feet long. The proposed road will be designed and constructed in accordance with the North Carolina Department of Transportation's Standards and Specifications. The road will cross the utility corridor that brings rail, electricity, and natural gas to the Nucor recycling mill. The electric lines will cross overhead and the natural gas line will be buried under the road. The proposed road will cross the rail line.

MITIGATIVE MEASURES - The crossing of the railroad will be designed and constructed in accordance with CSX Transportation, Inc.'s and the North Carolina Department of Transportation's standards and specifications (Figure 7) in order to provide the safest possible crossing. Also, the road will be paved to

minimize dust impacts. This road will also allow for a safe and more expedient route around the facility rather than through it, especially in relation to emergency vehicles, school buses, and normal traffic.

5.21 Future Growth

Descriptions of potential future growth are uncertain, speculative, dependent on future economic conditions and are not essential to the development of the recycling mill and related docking facilities. Areas available for future growth facilities are shown on the Figure 1. Although it is practical from an environmental as well as an economic perspective for support industries to be located on-site, it is not critical to Nucor's plans for construction of the recycling plant at this location.

MITIGATIVE MEASURES - Possible future growth on-site will reduce industrialization from occurring on a number of different sites throughout the area and potentially reduce overall environmental impacts. There will be no additional or cumulative impacts to wetlands, cultural resources, or protected species on-site because these resources have been identified and planned for during the proposed mill development.

5.22 Secondary and Cumulative Impacts

Nucor plans to employ approximately 300 people at the facility in Hertford County. Nucor anticipates that the location of employee residences will vary greatly and be dispersed throughout the regional areas around the proposed recycling mill in Hertford County. Nucor anticipates transferring approximately 15 percent from other Nucor recycling mills and other companies. Based on the relatively small number of transfers, very few housing starts are likely to be needed for Nucor personnel. There appears to be sufficient infrastructure and community resources available within Hertford County and adjacent counties to accommodate the needs of transferring personnel. More information regarding potential secondary and cumulative impacts associated with this Nucor Steel recycling mill and employees is attached in Appendix P.

MITIGATIVE MEASURES - Nucor Steel will fund an independent Growth Management Study to best plan for future growth in Hertford County in order to avoid and minimize secondary and cumulative impacts.

5.23 Additional Mitigative Measures

In addition to compliance with federal, state, and local laws, Nucor has compiled an impressive record of environmental and civic projects that Nucor implemented in and around the communities of their steel recycling mills (Appendix Q).

From Appendix B: Alternative Analysis

The North Carolina Virginia Railroad will provide rail service to the utility corridor along an existing rail bed. Nucor plans to use rail cars to bring approximately twenty percent of the scrap steel to the site and to ship approximately one thousand tons of finished product a day. Nucor estimates that there will be eighteen inbound rail cars per day. Thirteen of these rail cars will be empty and used for shipping finished product. Five of these rail cars will bring scrap steel or other deliveries. The daily outbound train will have thirteen rail cars of finished steel products and five empty rail cars.

8.2.4.5 Wetlands

Investigation by Nucor determined that there would be less impact to waters of the United States, including wetlands, at the Hertford County site than at any other primary site considered by Nucor for its plate mill. More than twenty acres of tidal marshes or wetlands would be impacted by dredging at the Corbett site, without further consideration of the impacts by construction on the site. Similarly, dredging at the Green Mount site would have impacted over twelve acres of tidal marshes or wetlands, without even considering the impacts by construction on the site. Over seventeen percent of the West Point site, 154.7 acres, consisted of wetlands, making it extremely difficult to lay out a steel mill and ancillary facilities without a major wetlands impact.

Impacts to wetlands on the Hertford County site would also be less than those associated with the most recently constructed Nucor steel mills. For example, the Nucor sheet mill, constructed in Berkeley County, South Carolina in 1996, impacted over one hundred acres of wetlands for initial construction, expansion, and satellite industries and the

Nucor beam mill, currently under construction in Berkeley County, South Carolina, impacted approximately thirty-two acres of wetlands. Construction of the port facility at Nucor Steel Arkansas in 1992 impacted approximately eight acres of wetlands.

Land Management, Inc. delineated the wetlands existing on the Hertford County site and also identified the wetlands to be impacted by the construction of the plate mill. The delineation determined 16.38 acres of wetlands to be present on the site. Construction of the Project will only impact 2.12 acres of wetlands.

8.2.4.6 Endangered Species

Nucor retained Dr. Jay Carter III and Associates, Inc. to conduct a biological assessment with respect to the Hertford County Site and the adjoining utility corridor. Correspondence from the U.S. Fish and Wildlife Service indicated that the only protected species which potentially could occur on the site is the red-cockaded woodpecker (*Picoides borealis*), which is federally listed as an endangered species. The red-cockaded woodpecker requires open stands of pines sixty or more years old for roosting/nesting habitat. Preferred foraging habitat is pine and pine/hardwood stands which are at least thirty years old. Under story vegetation less than five feet is also generally preferred. The existing pine forest on the site consists primarily of a fifteen to forty year old loblolly pine plantation planted by Champion International and Union Camp Corporation. Investigations of the site by Dr. Jay Carter III and Associates, Inc. determined that no cavity trees and very little suitable habitat is located on or within one-half mile of the property as a result of primarily silvicultural and

Appendix M

WHITE STACK MARITIME CORP.

P.O. BOX 627 • CHARLESTON, SC 29402 • TEL 843.577.6556 • FAX 843.723.5431

October 22, 1998

Mr. Joseph A. Rutkowski
Nucor Steel
216 North Street
Ahoski, North Carolina 27901

Re: Proposed Nucor Steel Mill
Hertford County, North Carolina

Dear Mr. Rutkowski:

As a follow up to our discussions, I am writing to introduce our company and to submit a proposal which outlines the operation of an inland transportation system, utilizing shallow draft tugs and barges, for material delivery to your proposed mill in Hertford County.

Before discussing our transportation proposal, I would like to give you a very brief introduction to our company. White Stack Maritime Corp. has a history of operating tugs and barges dating back to the late 1800's. Recently, White Stack completed a merger with Moran Towing Corporation, a well-established firm with a very long tradition of outstanding service. The combined operations of the two companies will offer our customers unsurpassed service.

We are presently evaluating the merits of operating an inland barge service to meet your transportation requirements from the port(s) of Morehead City, N. C. and/or Norfolk, Va. At this time, regardless of the deep-water port chosen, the characteristics of the equipment utilized for the service will include the following:

Tugs:	Length overall	75 feet
	Beam	30 feet
	Deep draft	8 feet
Barges:	Length overall	195 feet
	Beam	35 feet
	Deep draft	9 feet
	Capacity	1,500 tons

Typically, one tug will push a tow consisting of two barges in a "round robin" fashion. The tug will depart the deep-water port with two loaded barges, transport the barges to the mill, drop them, and pick up two empty barges for transport back to the deep-water port. At this time, we do not envision more than two barges moored at the mill at any one time.

We plan to utilize hopper barges for the service. We feel the hoppers will offer a containment system for the material transported. In addition, the hopper barges are in essence a double hulled vessel.

The barge will maintain buoyancy with a penetration to its shell plating. We plan to conduct maintenance and repair activities on the floating equipment at the deep-water port(s).

We submit the following two navigation plans as the route(s) we may take from the deep-water port(s) under consideration.

#1

The route from Morehead City to the Nucor site will begin near the Morehead City turning basin. The project depth in the basin is 35 feet. From the turning basin the tow will proceed north up the Newport River and into the Adams Creek canal. Project depths in this area are 12 feet. From Adams Creek the tow will proceed into the Neuse River and travel north for a distance of 17.5 miles to the Neuse River Junction. The controlling depths on the Neuse River are greater than 16 feet. From the Neuse River Junction the tow will turn northwest and proceed up the Bay River. Controlling depths in the Bay River exceed 13 feet. From the Bay River the tow will proceed north up Gale Creek to Goose Creek and into the Pamlico River. The project depth through this area is 12 feet. From the Pamlico River the tow will proceed north up the Pungo River to the Alligator River - Pungo River canal. The tow will proceed north through the canal to the Alligator River. The project depth in these areas is 12 feet. Upon reaching mile marker 80, the tow will proceed west on Albemarle Sound for a distance of 35 miles. The depths in this area exceed 13 feet. From Albemarle Sound the tow will transit the Chowan River to the Nucor mill site. The controlling depth on the Chowan River exceeds 13 feet.

#2

The route from Norfolk to the Nucor site will begin on the Southern Branch of the Elizabeth River. The project depth in the Southern Branch is 35 feet. From the Southern Branch the tow will proceed south through the Albemarle and Chesapeake canal to the North Landing River. Traveling south on the North Landing River, the tow will proceed through Currituck Sound to Coinjock, N. C. From Coinjock, the tow will proceed south on the North River to Albemarle Sound. The project depth for this area is 12 feet. Upon entering Albemarle Sound, the tow will turn west and proceed approximately 35 miles to the Chowan River. The controlling depth in Albemarle Sound is greater than 13 feet. Upon entering the Chowan River, the tow will proceed approximately 25 miles up river to the mill site. The controlling depth on the Chowan River exceeds 13 feet.

Our successful experience on the above routes demonstrates the feasibility of our proposed inland barge transportation system.

We look forward to working with you on this exciting project. If we may provide additional information, please do not hesitate to call.

Sincerely,

Timothy H. West
Vice President

Watershed Field Coordinator

Position Objective: The primary objective of this position is to engender liaison activity between the Commonwealth of Virginia (Department of Conservation and Recreation) and the State of North Carolina (Department of Environment and Natural Resources) relative to the regional implementation of the Comprehensive Conservation and Management Plan.

Specific Duties

1. Facilitate and foster coordination and communication between Virginia's Watershed Roundtables and North Carolina's River Basin Regional Councils.

    - Attend meetings of the Pasquotank, Chowan RCs.
    - Provide presentations regarding topics of interest.
    - Identify appropriate Virginia speakers/information for RC meetings upon request, as well as NC speakers/information for Watershed Roundtable meetings as feasible.
    - Provide schedule of Virginia's Watershed Roundtable meetings.
    - Provide minutes/summaries of Watershed Roundtable meetings to APNEP staff and RC members.
    - Correlate priorities identified in the RCs' Scope of Work with priorities identified by Watershed Roundtables.
    - Correlate RCs' demonstration projects with similar projects ongoing in Virginia.
    - Compile information on CCMP implementation relative to the RCs' issues/concerns as they apply to Virginia.

2. Compile information from local jurisdictions that will aid in APNEP CCMP work plans, targeting and monitoring of progress. Examples of information needed could include: demographics, current and projected land uses, NPS pollution control programs, local GIS maps, BMPs implemented, projects planned or underway, etc.

    - Work closely with APNEP staff in generating information to implement annual work plans, develop progress reports and other documents as necessary.
    - Work closely with NC Division of Water Quality basin wide planners regarding specific informational needs to be included in the basin wide management plans for the Pasquotank, Chowan river basins.

- Compile watershed assessment information regarding priority common interstate watersheds as needed for inclusion in the basin wide water quality plans.
- Provide appropriate and timely information to the APNEP Technical Assistant (Andy Coburn) for inclusion on APNEP web page and newsletter.
- Provide organizational chart of VA DCR and DEQ.

3. Assist with APNEP CCMP public relations by preparing material for regionally-targeted fact sheets, news releases, and other articles for publishing purposes.

    - Develop fact sheet or brochure defining the common issues of VA and NC located in the Pasquotank, Chowan basins. Could include maps, resource information and ongoing activities. Could highlight main accomplishments of the RCs and Watershed Roundtables. (Currently, NC's Office of Environmental Education is developing fact sheets for same basins. Coordinate with OEE to make sure the fact sheets do not conflict with each other).

4. Assist with event planning and facilitation.

    - Assist APNEP staff in preparation of the interstate MOA signing event (facilitate final draft in a timely manner, plan Virginia's part in the signing ceremony).
    - Assist APNEP staff in planning/conducting the Albemarle-Pamlico Estuary Conference scheduled for May 2001.

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Watershed Conservation Roundtable

A watershed-based forum for managing your watershed

In 1998 the Department of Conservation and Recreation implemented the *Cooperative Watershed Initiative*. This initiative provides local stakeholders with an opportunity to take a greater role in participating in watershed-based management and activities. Watershed Conservation Roundtables will be organized in each of Virginia's major watersheds. The Roundtables will provide a watershed-based forum for stakeholders to participate in:

- defining critical watershed needs,
- targeting problems for solutions,
- providing input into potential management options, and
- developing Watershed Strategic Action Plans, which will serve as a road map for water quality enhancement in the Commonwealth, focussing on cooperative, voluntary efforts.

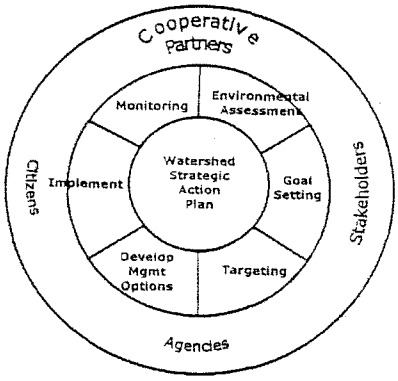
Who should be at the table?

Elected officials and local government	Silviculture
Soil and Water Conservation Districts	Agriculture
Planning District Commissions	Citizens
State/federal agencies	Conservation Organizations
Sustainable development	Business/Industry
Commercial/recreational fishing	Tourism

Why watershed management?

Coordinating activities within the boundaries of a river basin has important advantages.

- Programs are integrated to address the "big picture".
- Funding, staff and technical resources can be used more efficiently.
- There is increased public awareness and involvement in water resource issues.
- Natural resources management improves consistently and continually.
- There are enhanced opportunities and long-range and innovative planning.



How will the Roundtable work? Here are the steps to action.

- Get partners and stakeholders together. Participation of all affected parties is crucial to the success of watershed action plans.
- Cooperative partners & stakeholders work together to reach consensus on identifying problems, goals, approaches and actions for correcting problems.
- Develop a watershed strategic action plan to address local watershed needs.
- Seek resources available to implement the action plan (grants, staff, etc.)
- Achieve targeted water quality goals.

If you'd like to get involved . . .

Contact: Ernest N. Brown, Watershed Manager
Albemarle, Chowan & Coastal Watersheds Office
1548-A Holland Road
Suffolk, VA 23434

Phone (757) 925-2468
Fax (757) 925-2388
E-Mail: ebrown@dcr.state.va.us
nhill@dcr.state.va.us

MANAGEMENT UNIT

The Nottoway and Blackwater rivers meet to form the Chowan River near the Virginia - North Carolina border. The Chowan Basin includes 1,315 square miles in NC and 3,575 sq. mi. in VA. Major tributaries include the Meherrin River and its tributary, Potecasi Creek, and the Wiccacon River and its tributary, Ahoskie Creek. Land cover is dominated by forest and agriculture (87%), with a 59% increase in urban/built-up areas between 1982 and 1992. Between 1990 and 1994, a large increase in the swine population occurred in the subbasins of the upper Chowan (327%) and the Meherrin River and tributaries (446%). Human population growth is low to moderate.

HABITATS

Habitats Beneficial to Coastal Fisheries:

Small Depression Pocosins, Pond Pine Woodlands, Nonriverine Wet Hardwood Forests, Peatland Atlantic White Cedar Forests, Nonriverine Swamp Forests, Coastal Plain Levee Forests, Cypress-Gum Swamps.

Critical Fish Habitats:

Wetlands (Tidal Freshwater Marsh, Tidal Cypress-Gum Swamps, Coastal Plain Bottomland Hardwood), Submersed Rooted Vascular Plants (SAV), Riverine Bottom, Water Column.

Potential Critical Habitat Areas:

Anadromous Fish Spawning and Nursery areas.

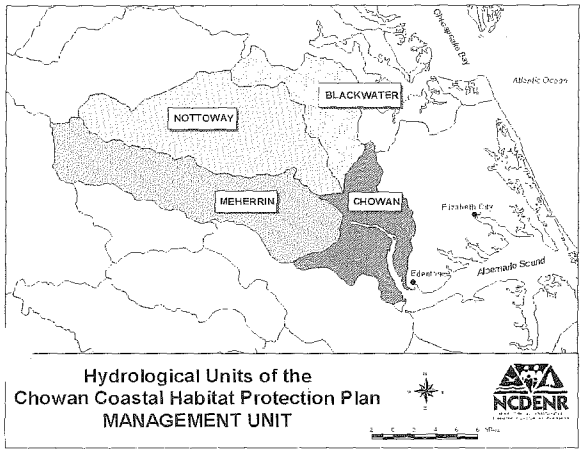
FISH AND FISHERIES

More than 50 fish species live in the Chowan River system. Largemouth bass, striped bass, and white perch are important to the recreational fishery. Other recreational species in the blackwater swamp-drainage streams of this system include catfish, pickerel, black crappie, warmouth and sunfish.

Important commercial species in terms of pounds harvested from the Chowan (1995-1998 average) are river herring (~316,200 lb), catfish (~ 274,000 lb), and gizzard shad (~97,200 lb). Catfish are the predominant species caught by fyke nets, fish pots, and trotline. River herring (blueback and alewife) are harvested primarily from pound nets and gill nets. Other main commercial species of the Chowan include white perch, gar, striped bass, flounders, and American shad. There are pot fisheries for eels and blue crabs, as well. Commercial fisheries landings for 1995 - 1998 averaged ~756,000 lb, with a value of ~$220,000.

NORTH CAROLINA COASTAL HABITAT PROTECTION PLAN

CHOWAN MANAGEMENT UNIT



PUBLIC INFORMATION MEETING

Why: Identify Issues and Potential Solutions

Where: College of the Albemarle , Edenton Campus, Classroom 125

When: 7pm - 9pm, Tuesday, March 28, 2000

A second public meeting will be held to discuss the draft plan in Winter 2001.

Comments Are Welcome

NC Division of Marine Fisheries, Habitat Section
1367 US 17 South
Elizabeth City, NC 27909
252-264-3911 800-338-7805
Liz.Noble@ncmail.net

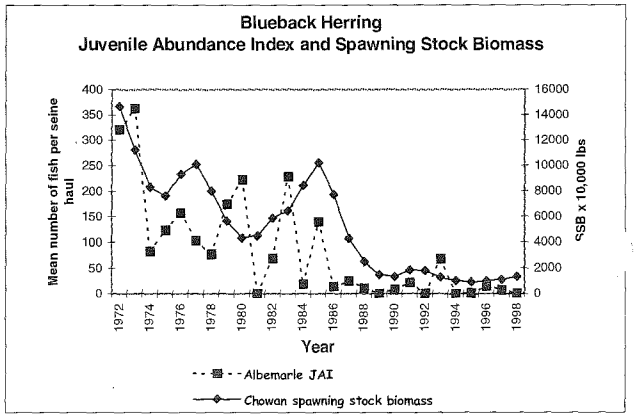
Reports on the Chowan River Basin

-Basinwide Wetlands and Riparian Restoration Plan for the Chowan River Basin (DWQ 1998)
Chowan River Basinwide Water Quality Management Plan (DWQ 1997)
-Chowan River Basin Nutrient Sensitive Waters Management Strategy Plan (EMC 1982, 1990)
-APES Comprehensive Conservation and Management Plan (APES 1994)

HABITAT ISSUES

Fisheries

Habitat loss, physical alterations, obstructions to fish migrations, and declining water quality were contributing factors to the collapse of the river herring stocks.



Interstate Cooperation

Water resource management, water quality, and land use regulatory actions in Virginia affect the ecological integrity of the Chowan Management Unit.

Water Quality

Data show that water quality in the Chowan River basin has improved since implementation of the Nutrient Sensitive Waters management strategy (1982). Poor agriculture and forestry practices and channelization can negatively affect water quality. Paper mill effluent has caused dioxin contamination in the Chowan River. NPDES facilities that have domestic waste components can be a source of chlorine in surface waters. Low dissolved oxygen events, nuisance algal blooms, fish kills, and fish diseases are correlated with poor water quality.

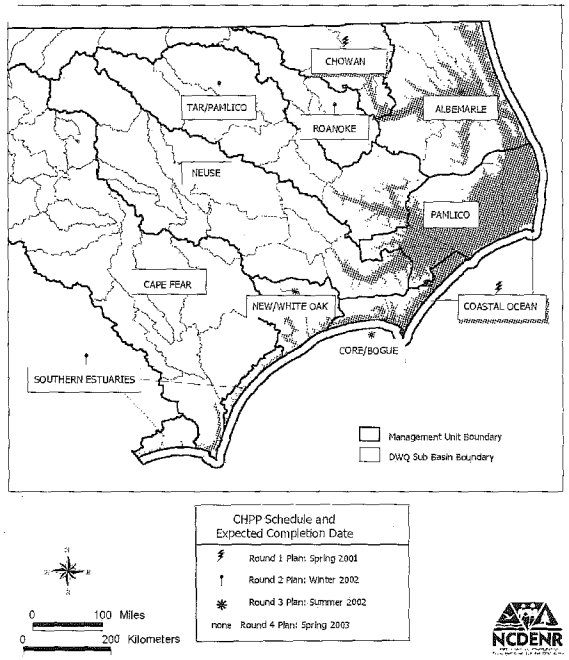
Land Conservation

The Chowan River basin contains extensive tupelo-gum and cypress swamps. These wetland habitat provide flood control and safeguard wildlife, fish, and water quality. Less than 1% of the basin area is in state-owned game lands and parks, with no federal wildlife refuges in the basin. Wetlands restoration efforts are scheduled to begin in the Edenton Bay area.

COASTAL HABITAT PROTECTION PLANS

The North Carolina Fisheries Reform Act of 1997 requires preparation of Coastal Habitat Protection Plans (CHPPs) with the goal of **"long-term enhancement of coastal fisheries associated with each coastal habitat."** Each CHPP will consist of the generic "Habitat Background Document" and a specific management unit plan. The plans will be approved and implemented by the North Carolina Coastal Resources, Environmental Management, and Marine Fisheries Commissions. Technical guidance comes from the CHPP Development Team. The Intercommission Review Committee reviews the plans and makes recommendations to the three commissions.

Coastal Habitat Protection Plan Management Units and Priorities



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NC Division of Marine Fisheries
HABITAT PROTECTION SECTION
P.O. Box 769
Morehead City NC 28557

Coastal Habit. rotection Plans goal: "long term enhancement of coastal fisheri. .ssociated with each coastal habitat."

HABITATS TO BE ADDRESSED:

Habitats Beneficial to Coastal Fisheries

Habitats that are important to ecosystem integrity, but do not support coastal fish populations. These include pocosins, wet forested flats, estuarine scrub/shrub, maritime forests and others.

Critical Fish Habitats

Habitats that support any of the life stages of coastal fish populations, such as contiguous wetlands (salt, brackish, and riverine marshes, bottomland hardwood swamps), submersed rooted vascular plants (seagrasses and other aquatic plants), riverine and subtidal bottom and intertidal flats, shell bottom, oceanic hard bottom and the water column.

Critical Habitat Areas

Habitat systems that warrant special consideration because of their ecological role, rarity, inherent vulnerability, or imminent threats. Examples may include Primary Nursery Areas or Outstanding Resource Waters.

COASTAL HABITAT PROTECTION PLAN DEVELOPMENT TEAM

Division of Marine Fisheries
Mike Street, Morehead City
Katy West, Washington
Liz Noble, Elizabeth City
Chris Perle, Washington
Anne Deaton, Wilmington

Division of Water Quality
Dianne Reid, Raleigh
Trish MacPherson, Raleigh
Bonnie Mullen, Raleigh

Division of Coastal Management
Pat Hughes, Raleigh

Division of Environmental Health
Shellfish Sanitation Branch
Steve Murphey, Morehead City

Wildlife Resources Commission
Bennett Wynne, Kinston

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N.C. Coastal Resources Commission
David Beresoff
Pricey Taylor Harrison

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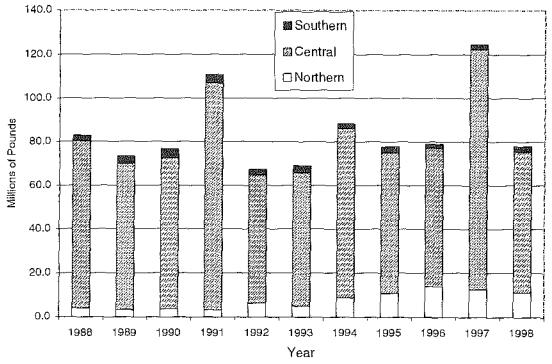
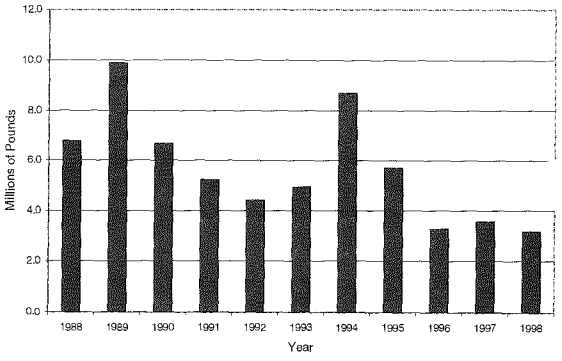
MANAGEMENT UNIT

The Coastal Ocean management unit includes North Carolina's beaches, shoreline and ocean waters along its entire length and extends three miles out to sea. There are 332 miles of ocean shoreline, 996 mi^2 of coastal waters, and 22 inlets. The nearshore waters are situated over the Continental Shelf in waters down to 70 ft in depth. The unit can be geographically divided into Long Bay, Onslow Bay, Raleigh Bay, and waters north of Cape Hatteras. Cape Hatteras marks a major zoogeographic boundary between temperate and subtropical species on the Atlantic Coast. Consequently North Carolina state waters are rich in species diversity and support numerous commercial and recreational fisheries.

Coastal Ocean Commercial Fish Landings



Coastal Ocean Recreational Fish Landings



NORTH CAROLINA COASTAL HABITAT PROTECTION PLAN

COASTAL OCEAN MANAGEMENT UNIT

photo by Raeford Brown

PUBLIC INFORMATION MEETINGS

Why: To Identify Issues and Potential Solutions

Where & When:

Wilmington -	Tues, March 21, 7pm - 9 pm UNC-W, New Science Bldg., Dobo Hall, Rm.202
Morehead City-	Wed, March 22, 7pm- 9 pm UNC Institute of Marine Science, 3431 Arendell St., 2nd Fl. Conf. Rm.
Manteo -	Wed, March 29, 7pm- 9 pm Festival Park

A second series of public meetings will be held to discuss the draft plan in Winter 2001.

Comments Are Welcome

NC Division of Marine Fisheries, Habitat Section
127 Cardinal Dr. Ext.
Wilmington, NC 28405
910-395-3900 800-248-4536
Anne.Deaton@ncmail.net

CURRENT MANAGEMENT

North Carolina Marine Fisheries Commission, Coastal Resources Commission, Environmental Management Commission, National Park Service, US Fish and Wildlife Service, National Marine Fisheries Service, US Army Corps of Engineers, Mid-Atlantic and South Atlantic Fisheries Management Councils, and local governments are among some of the agencies which play a role in managing this important resource.

HABITATS

Habitats Beneficial to Coastal Fisheries:

- Coastal Dunes and Swales
- Oceanic Beaches
- Maritime Forest

Critical Fish Habitats:

- Intertidal and Subtidal Bottom
- Hardbottom
- Water Column

Potential Critical Habitat Areas:

- Inlets
- Nearshore Sand Bars
- Spawning Aggregation Areas
- Coquina Rock Outcrops

MARINE LIFE

Shrimp - C	Flounders - C,R
Spot - C,R	Croaker - C,R
Spanish mackerel -C,R	Bluefish -C,R
King mackerel- C,R	Blue crab-C,R
Kingfishes - C,R	Sharks - C, N
Striped bass - C,R	Tunas - R,C
Red drum - C,R	Menhaden - C
Trout -C,R	American shad - C
Sea turtles - N,P	Anchovies - N
Coquina clams - N	Mole crabs - N
Marine mammals - N,P	Ghost crabs - N

C - commercial; R - recreational;
N - non-fishery; P - protected

ISSUES

- Dredging and dredge spoil disposal
- Shoreline hardening
- Inlet stabilization
- Beach nourishment
- Fishing gear impacts
- Nearshore water quality
- Ocean dumping and waste disposal
- Oil and gas exploration
- Global warming & sea level rise
- Off-road vehicle use
- Coastal development

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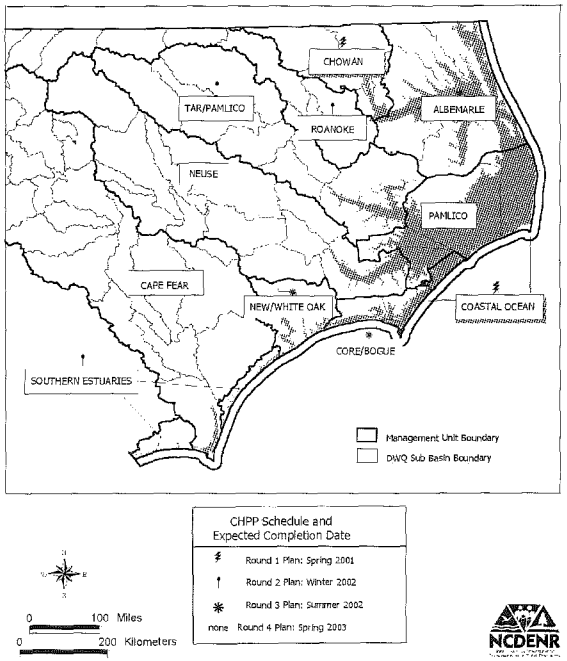

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