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INTERAGENCY EFFORTS TO COMPLY WITH THE ENDANGERED SPECIES ACT OF 1973

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UNDER A NATIONAL BACKDROP OF OUTRIGHT CONFRONTATION BETWEEN FEDERAL AGENCIES AND A COURT BATTLE BETWEEN ENVIRONMENTALIST AND A FEDERAL AGENCY OVER THE ENDANGERED SPECIES ACT, SURFACED AN INTERAGENCY COOPERATIVE EFFORT WHICH DEMONSTRATES NOT ONLY HOW TO PROTECT ENDANGERED SPECIES BUT HOW TO COMPLY WITH THE ENDANGERED SPECIES ACT. THE OBJECTIVE OF THIS PAPER IS TO ILLUSTRATE THIS INTERAGENCY COORDINATION IN THE PROTECTION OF AN ENDANGERED SPECIES.

ON JUNE 4, 1976, THE FRESHWATER MOLLUSK LAMPSILIS HIGGINSI WAS LISTED AS AN ENDANGERED SPECIES IN THE FEDERAL REGISTER. THE SPECIES WAS NOTED TO OCCUR IN THE UPPER MISSISSIPPI RIVER. THE U.S. ARMY CORPS OF ENGINEERS IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE UPPER MISSISSIPPI RIVER 9-FOOT NAVIGATION PROJECT. THE U.S. FISH AND WILDLIFE SERVICE IS CHARGED WITH DIRECTION AND COORDINATION OF THE ENDANGERED SPECIES PROGRAM ON THE UPPER MISSISSIPPI RIVER.

DURING THE 1976 NAVIGATION SEASON ON THE UPPER MISSISSIPPI RIVER MAINTENANCE DREDGING AT PRAIRIE DU CHIEN, WISCONSIN, AND ITS POTENTIAL IMPACT UPON LAMPSILIS HIGGINSI GENERATED SUBSTANTIAL CONTROVERSY. THE ST. PAUL DISTRICT CORPS OF ENGINEERS WAS CHARGED WITH VIOLATING SECTION 7 OF THE ENDANGERED SPECIES ACT BY A PRIVATE CITIZEN.

PRIOR TO THE COMPLAINT, AND EVEN PRIOR TO THE FINAL LISTING OF THE SPECIES, THE CORPS MET WITH THE SERVICE, LOCAL GOVERNMENT OFFICIALS, AND CONCERNED CITIZENS TO NOTIFY THEM OF ITS INTENT TO DREDGE THE CHANNEL AND TO DISCUSS POSSIBLE IMPACTS. THE GREAT RIVER ENVIRONMENTAL ACTION TEAM, A CONGRESSIONALLY FUNDED INTERAGENCY GROUP OF FEDERAL AND STATE REPRESENTATIVES DIRECTED AT DEVELOPING A ENVIRONMENTALLY SOUND MANAGEMENT PROGRAM FOR THE RIVER, PROVIDED AN ON-SITE INVESTIGATION OF THE PROPOSED DREDGING ACTIVITY. THE INVESTIGATION INCLUDED CONSULTATION WITH KNOWLEDGABLE COMMERCIAL CLAMMERS TO DETERMINE LOCATIONS OF CLAM BEDS. AS A RESULT OF THE INVESTIGATION THE PROPOSED DREDGING ACTIVITY WAS MODIFIED TO REDUCE THE POSSIBILITY OF DAMAGE TO NOT ONLY ENDANGERED SPECIES BUT ALSO KNOWN AND SUSPECTED CLAM BEDS.

FISH AND WILDLIFE SERVICE REVIEW OF PROPOSED DREDGING OPERATION RESULTED IN THE DETERMINATION THAT REASONABLE PRECAUTION WAS BEING TAKEN BY THE CORPS OF ENGINEERS TO ASSURE THAT THE PROPOSED DREDGING ACTIVITY WOULD NOT JEOPARDIZE THE ENDANGERED SPECIES. HOWEVER, THE DREDGING AT PRAIRIE DU CHIEN RESULTED IN THE LOSS OF SEVERAL SPECIMENS OF THE ENDANGERED SPECIES. THE INCIDENT SHOWED THAT KNOWLEDGE OF THE STATUS AND DISTRIBUTION OF LAMPSILIS HIGGINSI WAS VERY LIMITED, AS WAS INFORMATION ON THE ABUNDANCE, DISTRIBUTION, AND ECOLOGICAL REQUIREMENTS OF THE OTHER MUSSEL SPECIES KNOWN IN THE UPPER MISSISSIPPI.

ACCORDINGLY, THE CORPS IN KEEPING WITH ITS ENDANGERED SPECIES ACT RESPONSIBILITIES AND AS A MEMBER OF THE GREAT RIVER ENVIRONMENTAL ACTION TEAM SEEKING TO PLAN WITH CONCERN FOR THE ENVIRONMENT, DECIDED TO UNDERTAKE A COMPREHENSIVE STUDY OF ITS OPERATION AND FRESHWATER MUSSELL ECOLOGY TO DETERMINE THE EFFECTS OF DREDGING AND CHANNEL MAINTENANCE ACTIVITIES. FURTHER, THE CORPS OF ENGINEERS REQUESTED THE SERVICE TO INITIATE FORMAL CONSULTATION ON MAINTENANCE DREDGING AND ENDANGERED MOLLUSKS, WITH PARTICULAR EMPHASIS ON LAMPSILIS HIGGINSI.

FOLLOWING THE INITIATION OF FORMAL CONSULTATION BETWEEN THE CORPS AND THE SERVICE, THE NEED FOR A STUDY WAS FURTHER UNDERSCORED BY THE SERVICE'S THRESHOLD EXAMINATION.

THE SERVICE CONCLUDED THAT:

1. MAINTENANCE DREDGING MAY JEOPARDIZE THE CONTINUED EXISTENCE OF THE SPECIES AND/OR ADVERSELY MODIFY HABITAT THAT MAY BE DETERMINED CRITICAL TO THE SPECIES.

2. SUFFICIENT INFORMATION DID NOT EXIST AT THE TIME TO DETERMINE CRITICAL HABITAT FOR THE SPECIES.

3. TO MAKE A BIOLOGICAL JUDGMENT AS TO WHETHER OR NOT MAINTENANCE DREDGING WOULD MODIFY CRITICAL HABITAT, IT WOULD BE NECESSARY TO DETERMINE THE LOCATION AND EXTENT OF EXISTING CLAM BEDS.

4. TO DETERMINE WHETHER MAINTENANCE DREDGING JEOPARDIZE THE CONTINUED EXISTENCE OF SPECIES, IT WOULD BE NECESSARY TO UNDERSTAND THE EFFECTS OF SEDIMENTATION ON MOLLUSKS.

DURING THE COURSE OF THE THRESHOLD EXAMINATION, THE CORPS OF ENGINEERS PRESENTED A DRAFT SCOPE OF WORK FOR A MUSSEL SURVEY AND REQUESTED COMMENTS FROM THE SERVICE AND THE STATES OF MINNESOTA AND WISCONSIN. FOLLOWING THE DEVELOPMENT OF AN ACCEPTABLE SCOPE OF WORK THE SERVICE STATED THAT IMPLEMENTATION OF THE STUDY WOULD BE A MAJOR STEP IN COMPLIANCE WITH THE ENDANGERED SPECIES ACT. IT WAS FURTHER NOTED THAT THE RESULTS OF THE STUDY WOULD ASSIST IN DETERMINING CRITICAL HABITAT OF LAMPSILIS HIGGINSI.

IN ADDITION, SINCE THE CORPS' CHANNEL MAINTENANCE PROGRAM WOULD CONTINUE AS MANDATED BY CONGRESS, THE CORPS DEVELOPED A CONTINGENCY PLAN FOR THE PROTECTION OF THE ENDANGERED SPECIES. UNDER THE CONTINGENCY PLAN, PROPOSED DREDGING SITES WOULD BE SURVEYED PRIOR TO DREDGING. IF AN ENDANGERED SPECIES WAS DETECTED, DREDGING SCHEDULED FOR THE SITE WOULD BE TEMPORARILY STAYED TO PREVENT THE IMMINENT DESTRUCTION OF PROTECTED MUSSELS WHILE PERMITTING AN EVALUATION OF THE EFFECTS OF DREDGING AND THE CONSIDERATION OF AVAILABLE ALTERNATIVES.

ESSENTIALLY, THE AGREEMENT WAS AN INTERIM APPROACH TO PROMOTING CORPS COMPLIANCE WITH SECTION 7 OF THE ENDANGERED SPECIES ACT, A PROVISION THAT REQUIRES ALL FEDERAL AGENCIES TO INSURE THAT THEIR ACTIONS DO NOT JEOPARDIZE ENDANGERED OR THREATENED SPECIES

OR DESTROY OR MODIFY HABITATS CONSIDERED TO BE CRITICAL TO THE SPECIES' CONTINUED EXISTENCE.

IN THE SUMMER OF 1977, THE CORPS STUDIES WERE INITIATED. SAM FULLER, A RECOGNIZED AUTHORITY ON MUSSLES ASSOCIATED WITH THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, OPERATING UNDER CONTRACT WITH THE CORPS, ENGAGED IN AN EXTENSIVE 2 YEAR FIELD SURVEY. THE SURVEY EFFORT CENTERED ON AREAS THAT WERE SCHEDULED FOR DREDGING OR HAD A HISTORY OF NEEDING DREDGING TO MAINTAIN THE NAVIGATION CHANNEL.

AT EACH SAMPLING SITE, OBSERVATIONS WERE MADE ON THE PHYSICAL AND BIOLOGICAL CONDITIONS, ON THE STRUCTURE OF THE MUSSEL COMMUNITY, AND ON THE POSSIBLE EFFECTS OF CHANNEL MAINTENANCE.

AFTER THE FIRST YEAR OF STUDY, THE INVESTIGATORS TENTATIVELY CONCLUDED THAT CHANNEL DREDGING AND ASSOCIATED ACTIVITIES HAVE ONLY A MINOR IMPACT ON FRESHWATER MUSSELS, INCLUDING THE LEGALLY PROTECTED SPECIES AND THAT WITH CAREFUL PLANNING THE IMPACT COULD CONTINUE TO BE MINOR. FOR EXAMPLES, FULLER NOTED THAT TWO LAMPSILIS HIGGINSI SPECIMENS FOUND IN THE ST. CROIX RIVER DURING THE STUDY WERE ONLY A FEW METERS FROM WHERE THE NAVIGATION CHANNEL HAD BEEN DREDGED IN 1970, YET BOTH WERE OLD ENOUGH TO HAVE BEEN THERE PRIOR TO THAT TIME.

CONFIRMED ADVERSE EFFECTS OF DREDGING ON LAMPSILIS HIGGINSI, THE STUDY REPORTED, WERE FOUND ONLY AT PRAIRIE DUE CHIEN, WHERE 21 SPECIMENS HAD BEEN LOST IN DREDGING OPERATIONS, AND ON THE MISSISSIPPI

AT BROWNSVILLE, MINNESOTA, WHERE ONE JUVENILE SPECIMEN HAD BEEN LOCATED.

BUT THE STUDY CAUTIONED THAT, UNLESS CARE WAS EXERCISED IN THE REMOVAL OF MATERIALS FROM THE CHANNEL AND IN ITS DEPOSITION, MUSSELS COULD BE ADVERSELY AFFECTED.

ANOTHER PART OF THE CORPS' STUDY EFFORT CENTERED ON DETERMINING THE EFFECTS OF SILT AND SAND SEDIMENTATION ON FRESHWATER MUSSELS. THE NATIONAL FISHERY RESEARCH LABORATORY OF THE FISH AND WILDLIFE SERVICE CONDUCTED A SERIES OF STUDIES WORKING UNDER CONTRACT FOR THE CORPS. THE WORK DEMONSTRATED THE ACUTE EFFECTS OF DREDGE MATERIAL ACCUMULATION OVER 3 SPECIES OF MUSSELS, 2 OF WHICH ARE OF THE SAME GENERA AS THE ENDANGERED SPECIES. THE RESULTS SUGGEST THAT MUSSELS HAVE THE CAPABILITY OF EMERGING FROM SEVERAL INCHES OF OVERLAYED SAND OR SILT.

A GOOD DEAL OF ADDITIONAL INFORMATION HAS BEEN GENERATED AS A RESULT OF THE STUDY EFFORTS. THE FULLER STUDY PROVIDED A CROSS-SECTIONAL SAMPLING OF THE RIVER'S MUSSEL FAUNA. THE WORK ALSO REVEALS THAT NEARLY ALL SPECIES OF MUSSELS HAVE SUFFERED A DECLINE IN ABUNDANCE IN THE UPPER MISSISSIPPI RIVER. FULLER CONCLUDED THAT AN UNFORTUNATE NUMBER OF MUSSEL SPECIES ARE IN DECLINE AND PROBABLY FACING EXTINCTION. THE STUDY ATTRIBUTES THE SHARP DROP IN NUMBERS OF SEVERAL SPECIES PARTLY TO EXCESSIVE COMMERCIAL EXPLOITATION BY THE PEARL BUTTOM INDUSTRY, WHICH USED SHELLS TO MAKE BUTTONS AROUND 1900. SINCE MUSSELS ARE STILL COMMERCIALLY HARVESTED, IT HAS BEEN SUGGESTED THAT MANAGEMENT REGULATIONS

BE CONSIDERED TO INSURE THE CONTINUED EXISTANCE OF SOME SPECIES.

FURTHER, THE STUDY REVEALED THE PRESENCE OF AN EXOTIC SPECIES, THE ASIATIC CLAM (CORBICULA MANILENSIS), IN THE ST. CROIX RIVER. THE SPECIES IS KNOWN TO DISLODGE MUSSELS FROM THE STREAMBED. IN A RIVER SYSTEM THE UPROOTING OF MUSSELS MAY LEAD TO THEIR EVENTUAL DEATH. IT IS THOUGHT THAT IF THE ASIATIC CLAM BECOMES ESTABLISHED IN MUSSEL BEDS THAT IT COULD POSE A THREAT TO THE CONTINUED EXISTANCE OF SOME SPECIES.

THE ST. PAUL CORPS OF ENGINEERS HAS BEEN MAINTAINING THE UPPER MISSISSIPPI RIVER 9-FOOT NAVIGATION CHANNEL FOR OVER 35 YEARS. RIVER TRAFFIC IN COMMERCIAL CARGO LAST YEAR HAS BEEN ESTIMATED AT NEARLY 20 MILLION TONS IN THE ST. PAUL DISTRICT. DURING THE NAVIGATION SEASON APPROXIMATELY 20 SITES MUST BE DREDGED EITHER ANNUALLY OR EVERY OTHER YEAR TO PROVIDE A NAVIGATION CHANNEL FOR THE FLOW OF COMMODITIES SUCH AS COAL AND GRAIN THAT ARE SHIPPED BY BARGE.

THE MANNER IN WHICH THE ST. PAUL DISTRICT HAS CARRIED-OUT THEIR RESPONSIBILITIES THROUGH THE FORMAL CONSULTATION PROCESS SHOULD SERVE AS A MODEL OF HOW SECTION 7 OF THE ENDANGERED SPECIES ACT SHOULD BE ADMINISTERED. IN VIEW OF THE POTENTIAL RAMIFICATIONS FOR THE ENDANGERED SPECIES, THE CORPS HAS PUT FORTH A COMMENDABLE EFFORT IN PROTECTING THE ENDANGERED SPECIES AND MEETING THE INTENT OF THE ENDANGERED SPECIES ACT.

IT SHOULD BE FURTHER NOTED THAT THE CORPS' ACTIONS IN COMPLYING WITH THE ENDANGERED SPECIES ACT HAD NO IMPACT ON THE OPERATION AND MAINTENANCE OF THE NAVIGATION SYSTEM.

THE INFORMATION GATHERED THROUGH THE CORPS' STUDY EFFORTS WILL BE EMPLOYED BY THE SERVICE IN PREPARING A BIOLOGICAL OPINION ON THE OVERALL IMPACTS OF THE CORPS' CHANNEL MAINTENANCE OPERATIONS. THAT OPINION IS EXPECTED TO BE ISSUED BY EARLY SPRING.