

SERO

- NMFS SOUTHEAST REGIONAL OFFICE, ST. PETERSBURG, FLORIDA
- SERO COVERS TEXAS THROUGH NORTH CAROLINA
- PROTECTED RESOURCES DIVISION CONSISTS OF 7 BIOLOGISTS AND 2 SUPPORT PERSONNEL

HOPPERS AND TURTLES

- HOPPER DREDGING EFFECTS ON LISTED SPECIES, ESPECIALLY SEA TURTLES, IN THE NMFS SOUTHEAST REGION

1978, FIRST NMFS SER ESA CONSULTATION ON H-D

- IN 1978, NMFS TRAWL SURVEYS VERIFIED SEA TURTLES WERE ABUNDANT IN CANAVERAL CHANNEL, FLORIDA
- ESA CONSULTATION CONCLUDED THERE WAS INSUFFICIENT INFO TO DETERMINE IF H-D WAS LIKELY TO JEOPARDIZE SEA TURTLES...
- MORE TRAWL SURVEYS SUPPORTED BY COE AND USN (\$\$) WERE IMPLEMENTED

JANUARY 22, 1980, OPINION

- BO RECOMMENDED :
- NMFS-APPROVED OBSERVERS BE ABOARD TO MONITOR FOR SEA TURTLE PRESENCE
- DREDGING BE DONE DURING SEASONAL WINDOW AUG TO NOV 1

MORE ON THE JANUARY 1980 OPINION

- CONCLUDED THAT DREDGING MAY RESULT IN MANY TAKES OF LOGGERHEADS BUT WAS NOT LIKELY TO JEOPARDIZE T-C-E OF EITHER LOGGERHEADS OR KEMP'S RIDLEYS
- THE POTENTIAL FOR TURTLE TAKE WAS RECOGNIZED BUT NO EVIDENCE OF TAKE BY HOPPERS EXISTED AT THIS POINT

BUT THEN...

- 71 TURTLE TAKES BY H-D WERE DOCUMENTED FROM JULY-NOV 1980, IN CANAVERAL CHANNEL
- NMFS CONSIDERED THESE TAKES TO BE MINIMUM ESTIMATES OF MORTALITY SINCE MANY TAKES LIKELY GO UNDETECTED



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1980-1986

NMFS BO'S AUTHORIZED TAKES

NMFS, COE, AND NAVY CONTINUED
EFFORTS TO ELIMINATE TAKES BY
H-D IN CANAVERAL CHANNEL

TURTLE TAKES WERE REDUCED

EFFORTS INCLUDED ATTEMPTS TO SCARE TURTLES AWAY

- DETECT AND CAPTURE THEM
- REMOVE AND RELOCATE THEM
- PHYSICALLY DEFLECT TURTLES AWAY
FROM THE SUCTION DRAGHEAD

SO, THE BOTTOM LINE WAS...

- NO ACCEPTABLE MEANS WAS FOUND OF ELIMINATING H-D TAKE OF TURTLES
- TAKES CONTINUED IN CANAVERAL
- BUT THEN, FINALLY,
- SOME GOOD NEWS – UNLESS YOU WERE A CANAVERAL TURTLE...

1981-82 COE/USN TRAWL SURVEYS OF 5 MAJOR EAST COAST CHANNELS SHOWED

- WHILE HUNDREDS WERE COLLECTED AT CANAVERAL...
- ONLY 1-2 TURTLES WERE COLLECTED IN EACH OF THE SURVEYED CHANNELS

NMFS DECIDED THAT...
THE CANAVERAL PROBLEM
WAS UNIQUE, SO...

- ADDITIONAL CHANNEL ABUNDANCE SURVEYS WERE NOT REQUIRED
- MEANWHILE, WORK CONTINUED ON A TECHNICAL SOLUTION

CORPS OF ENGINEERS ENGINEER



THE ORIGIN OF MUTANT NINJA TURTLES: SEA TURTLES AND NAVY NUKES

- IN 1986, USN REINITIATED CONSULT. ON PROPOSED DREDGING AT KINGS BAY, GA, TRIDENT SUB BASE
- ACTION INVOLVED DEEPENING AND, WIDENING, AND EXTENDING CHANNEL 17 MILES

THE NAVY CONSERVATION MEASURES INCLUDED

- ENDANGERED SPECIES OBSERVERS
- DREDGED MATERIAL SCREENING
- TURTLE RELOCATION TRAWLERS
- IN KINGS BAY, FROM JULY 87-DEC 89, 21 TURTLES TAKEN BY H-D

POLICY SHIFT

- KINGS BAY TAKES RESULTED IN MAJOR CHANGES IN NMFS H-D POLICY
- K-B WAS THE FIRST DOCUMENTED TAKE OF TURTLES OUTSIDE OF CANAVERAL
- CANAVERAL TAKES HAD ALL BEEN LOGGERHEADS (THREATENED); K-B TAKES INCLUDED GREENS (3) AND KEMP'S (3) (ENDANGERED)

HMMMM....

- NMFS BEGAN TO CONSIDER THE ADDITIVE CONSEQUENCES OF HOPPER DREDGING ALONG THE SOUTHEAST ATLANTIC COAST



1988 WAS A VERY GOOD YEAR FOR TURTLES

- NMFS ASSISTANT ADMINISTRATOR FOR FISHERIES WROTE THE COMMANDER OF THE ARMY CORPS OF ENGINEERS REQUESTING FORMAL CONSULTATION FOR ALL AREAS WHERE HOPPER DREDGING WAS PROPOSED
- OBSERVERS WERE REQUIRED ON 25-100% OF ALL HOPPER DREDGING ACTIVITIES IN BRUNSWICK, SAVANNAH, AND WILMINGTON

NOV 25, 1991 “JEOPARDY” OPINION TO COE

- IN RESPONSE TO HIGH OBSERVED TAKES AND NEARBY STRANDINGS, IN BRUNSWICK AND SAVANNAH CHANNELS
- BO FOUND THAT CONTINUED UNRESTRICTED H-D IN SE ATLANTIC COAST CHANNELS COULD JEOPARDIZE THE CONTINUED EXISTENCE OF SEA TURTLES

REASONABLE AND PRUDENT ALTERNATIVE

- PROHIBITED ALL H-D IN CANAVERAL CHANNEL (AT LAST! AT LAST!)
- ESTABLISHED SEASONAL RESTRICTIONS (H-D ONLY FROM DEC THROUGH MARCH) FROM OREGON INLET, NC - CANAVERAL
- NON HOPPER-TYPE DREDGES WERE OKAYED YEAR-ROUND, EVERYWHERE

THE REGIONAL APPROACH

- NOV 1991 BO WAS NMFS' FIRST "CUMULATIVE AREA" ESA CONSULT. WITH COE ON HOPPER DREDGING
- BO CONCLUDED NO ADVERSE EFFECTS TO LISTED SPECIES LIKELY TO OCCUR FROM CLAMSHELL OR PIPELINE DREDGES

THE 1991 REGIONAL BO

- AUTHORIZED THE ANNUAL TAKE OF:
- 50 LOGGERHEADS, OR
- 5 GREENS, HAWKSBILLS, OR LEATHERBACKS, IN COMBINATION, OR
- 2 KEMP'S RIDLEYS

- THE GOOD NEWS –
- BETWEEN 1992-1995 ONLY 14 TAKES WERE OBSERVED (3 ALIVE)

1994 CHANNEL SURVEYS & THE CORPS COWCATCHER

- OCT 1994: COE WES CONCLUDED TURTLE ABUNDANCE RESEARCH ON 6 SER CHANNELS (DICKERSON ET AL. 1994)
- MOREHEAD CITY, CHARLESTON, SAVANNAH, BRUNSWICK, FERNANDINA – ST. MARYS RIVERS, AND CANAVERAL
- WES DEVELOPED PROMISING DRAGHEAD “COWCATCHER” TURTLE DEFLECTOR



THE CORPS RENEGOTIATES

- NOV 1994: BASED ON WES WORK, COE SAD REQUESTS NEW BO WITH LESS RESTRICTIVE H-D CONDITIONS

WES SURVEY RESULTS

- EXPECT MODERATE TO HIGH ABUNDANCE OF SEA TURTLES WHEN WATER TEMPS ARE 21 DEG C. OR +
- LOWER ABUNDANCES OBSERVED WHEN TEMPS WERE 16 DEG C. OR –
- CANAVERAL SUPPORTS TURTLES YEAR-ROUND, ESPECIALLY WINTER

WES SURVEY RESULTS...

- LOGGERHEADS WERE MOST ABUNDANT (N=645), THEN KEMP'S (N=20), THEN GREENS (N=5)
- NORTH OF CANAVERAL, TURTLES SEASONALLY ABUNDANT, LOWER NUMBERS IN DEC-FEB

AND...

- RECAPTURES OF RELOCATED TURTLES SHOWED SOME SITE FIDELITY
- EFFECTIVENESS OF RELOCATION SEEMED RELATED TO RELOCATION DISTANCE

CPUE IN 5 WES-SURVEYED CHANNELS (ALL SEASONS, CUMULATIVELY)

- CANAVERAL – 1.43 TURTLES/HOUR
- KINGS BAY – 0.571
- BRUNSWICK HARBOR – 0.489
- CHARLESTON HARBOR – 0.206
- MOREHEAD CITY HARBOR – 0.025

AUG 25, 1995, REGIONAL BO

- REVISED 1991 BO RESTRICTIONS AND MONITORING REQUIREMENTS FOR COE HOPPER DREDGING ACTIVITIES IN SEUS
- SET MONITORING WINDOWS FOR SEA TURTLES/WHALES

OTHER T & C's...

- REQUIRED DEFLECTING DRAGHEAD DURING HIGH TURTLE ABUNDANCE MONTHS, UNLESS NMFS WAIVER...
- ALLOWED CANAVERAL DREDGING WITH HOPPER, BUT ONLY IN EMERGENCIES
- REQUIRED 100% INFLOW SCREENING; RECOMMENDED 100% OVERFLOW SCREENING, UNLESS NMFS WAIVER...

MORE ON THE 1995 RBO...

- COVERS CHANNELS FROM NC TO KEY WEST, FL
- AUTHORIZED ANNUAL TAKES OF -
- 20 LOGGERHEADS
- 7 KEMPS AND 7 GREENS
- 2 HAWKSBILLS
- 5 SHORTNOSE STURGEON
- RECONSULT WHEN 75% OF I.T.L. IS MET

THE 1997 ‘INTERIM’ BO

- HIGH TURTLE TAKES DURING H-D IN 1997
- COE RECONSULTED TO COMPLETE ONGOING WORK IN WILMINGTON AND MOREHEAD CITY; AND MIAMI AND MYRTLE BEACH SAND BORROW AREAS
- INTERIM BO ADDED 15 LOGGERHEADS TO 1995 ITS

SEPT 25, 1997, RBO

- SUPERSEDED 1997 INTERIM RBO
- IS THE CURRENT BO AUTHORIZING COE SAD TAKES OF LISTED SPECIES BY H-D
- MAINTAINED TAKE LEVELS SET IN INTERIM BO (35 LH, 7 KR, 7 GR, 2 HB, 5 SNS)

MORE ON SEPT 25, 1997, RBO

- INCLUDED TERMS/CONDITIONS OF 1995 RBO, ALSO...
- RECONSULT IF 75% OF I.T.L. MET, 2 OR MORE TURTLES TAKEN IN ONE DAY, OR 5 TURTLES TAKEN PER PROJECT
- “VALID” FOR 5 YEARS FROM ISSUE DATE

COE SAD IN-HOUSE HOPPER DREDGING PROTOCOL

COE SAD SUBDIVIDES AND ALLOCATES
NMFS' "TURTLE/SNS QUOTA" FROM 1997
RBO ITS AMONG ITS RESPECTIVE COE
DISTRICTS IN SEUS

- SAD TERMINATES INDIVIDUAL DREDGING
PROJECTS WHEN 5 TURTLES ARE TAKEN

RELOCATION TRAWLING

- PROTOCOL CALLS FOR DISTRICT TO CALL IN RELOCATION TRAWLERS IF 2 TURTLES ARE TAKEN IN 24 HOURS
- MAY OCCUR WHEN TAKE LEVELS ARE SO HIGH THAT COE SAD IS ON THE VERGE OF TERMINATING A DISTRICT'S PROJECT BEFORE ALL NECESSARY DREDGING HAS BEEN COMPLETED

MORE ON RELOCATION TRAWLING...

- BUYS THE COE TIME TO FINISH CRITICAL PORTIONS OF DREDGING PROJECTS
- BUT IT'S EXPENSIVE (LAST-DITCH)
- MULTIPLE TRAWLERS MAY BE USED
- IT'S ALSO A PAIN BECAUSE IT REQUIRES NMFS-APPROVED ESO'S ABOARD WHO HAVE PERMITS TO HANDLE TURTLES

EFFECTIVENESS OF RELOCATION TRAWLING

- SEPT 2000, ST. PETE HARBOR DREDGING, 3 TURTLES WERE RELOCATED IN 8 DAYS OF TRAWLING (80 TOWS TOTALING 29 HOURS OF DRAG TIME)
- FEB-MAR 1999, BRUNSWICK HARBOR, GA, TRAWLERS MOVED 19 LOGGERHEADS OUT OF PATH OF H-D IN APPROX. 3 WKS
- WOULD THEY HAVE MOVED BEFORE THE HOPPER DREDGE ATE THEM?

TURTLE TAKES - SAD

- 1992 - 1995 – 16 TURTLES
- 1996 - 9
- 1997 – 28
- 1998 – 6
- 1999 – 7
- 2000 – 15
- 2001 – 4 - INCLUDES FIRST-EVER DOCUMENTED TAKE FROM OFFSHORE SAND BORROW AREA (BREVARD CO., FL)

TAKES OF OTHER SPECIES BY HOPPER DREDGE

- NO HAWKSBILLS OR LEATHERBACKS IN SEUS OR GOM
- NO SHORTNOSE, (OR GULF STURGEON IN GOM) THOUGH OCCASIONAL TAKES OF ATLANTIC STURGEON (NOT ESA-LISTED)
- NO WHALES (H-D HAVE HAD TO GIVE WAY ON OCCASION)
- JSG NOT LIKELY TO BE WHERE H-D ARE

GULF OF MEXICO HOPPER DREDGING

- BEFORE 1995, CONSULTATIONS CONDUCTED PRIMARILY CASE BY CASE, INFORMAL
- FEB 1995, NMFS LEARNED OF GREEN TURTLE TAKES BY H-D IN BRAZOS PASS, SO. TEXAS
- THESE WERE FIRST DOCUMENTED TAKES OF SEA TURTLES BY H-D IN THE GULF OF MEXICO

FIRST REGIONAL GULF OPINION ON H-D

- SEPT 22, 1995, NMFS ISSUED A REGIONAL BO TO THE COE GALVESTON AND NEW ORLEANS DISTRICTS FOR H-D IN TEXAS AND LOUISIANA NAVIGATION CHANNELS

1995 GOM COMBINED RBO

- RECOMMENDS H-D BETWEEN DEC 1-MAR 31, WHENEVER POSSIBLE, IN GOM WATERS AND UP TO 1 MILE IN RIVERS
- REQUIRES ESO'S ABOARD FROM CORPUS CHRISTI SW TO BRAZOS PASS, TX
- IF NO TAKES IN DEC THEN OBSERVERS NOT REQUIRED IN JAN AND FEB OR UNTIL WATER TEMPS RISE TO 12 DEG C.

MORE ON THE GOM COMBINED RBO...

- CHANNELS NE OF CORPUS CHRISTI, OBSERVERS REQUIRED WHEN TEMPS = OR + 12 DEG C AND BETWEEN APR 1 - NOV 30.
- 100% INFLOW SCREENING REQUIRED, 100% OVERFLOW SCREENING RECOMMENDED. IF...THEN...
- RIGID DRAGHEAD DEFLECTOR REQUIRED
- SEPARATE ITS FOR EACH DISTRICT

AUTHORIZED ANNUAL TAKE

- NEW ORLEANS DISTRICT:
 - 15 LOGGERHEADS
 - 7 KEMP'S RIDLEYS
 - 3 GREENS
 - 1 HAWKSBILL

- GALVESTON DISTRICT:
 - SAME, EXCEPT 5 GREENS (MORE GREENS IN TEXAS WATERS THAN LOUISIANA)

OBSERVED GOM TURTLE TAKES SINCE 1995

- 1995 - NOD – 0; GD – 10; 5 KR, 2 LH, 3 GR
- 1996 – NOD – 1; GD – 5; 6 LH
- 1997 – NOD – 5; GD – 1; 6 LH
- 1998 -
- 1999 – NOD – 2; GD – 11; 4 KR, 4 LH, 5 GR
- 2000 – NOD – 2; GD – 2; 1 KR, 3 LH
- 2001 – NOD – 12; GD – 0; 1 KR; 11 LH

- APPROX. COMBINED DISTRICT YEARLY
AVERAGE: 11 TURTLES PER YEAR

GOM NOD AND GD COE HOPPER DREDGING PROJECTS

- SABINE PASS (SABINE-NECHES WATERWAY)
- GALVESTON HARBOR CHANNEL
- CORPUS CHRISTI SHIP CHANNEL
- PORT MANSFIELD
- BRAZOS ISLAND HARBOR
- LOWER MISSISSIPPI RIVER
- MISS. RIVER GULF OUTLET (MRGO)
- MRGO BAR CHANNEL
- MISS. RIVER SOUTHWEST PASS

AS WE SPEAK...

- COE-GD HAS REINITIATED CONSULTATION WITH NMFS AND IS PUTTING RELOCATION TRAWLERS ON STANDBY AT MRGO BECAUSE ONE MORE LOGGERHEAD TAKE PUTS THEM OVER 75% OF THEIR LOGGERHEAD TAKE LIMIT

COMING SOON...

- NMFS IS REWRITING THE 1995 GOM RBO TO MAKE IT GULF-WIDE
- NMFS EXPECTS TO INCLUDE COE JAX DISTRICT'S FL WEST COAST HOPPER DREDGING P[ROJECTS, AS WELL AS MOBILE DISTRICT'S H-D PROJECTS
- NEW BO WILL MAINTAIN SEPARATE I.T. LEVELS FOR GD, NOD, MOB, AND JAX

