

R/V CONNECTICUT

CRUISE PLANNING MANUAL

**University of Connecticut
Marine Sciences
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Edition # 2

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WEBB PAGES - www.mstc.uconn.edu/contact.html

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TABLE OF CONTENTS

General Description	1
Scheduling	1
Financing	1
Cancellation Policy	2
Special Health Needs	2
Chief Scientist	2
Scientific Party	2
Insurance	3
Diving	3
Hazardous Materials	3
Use of Radionuclides	4
Waste Disposal	4
Use of Explosives and Sonic Emitters	4
Explosives	5
Loading and Off-loading	5
Arrival and Departure of Scientific Personnel	6
Meals, Linen and Cleaning	6
Use of Fresh Water	7
Foul Weather Gear	7
Communications, Ship's Intercom	7
Marine Radio-telephone	7
Marine Radio	7
Cellular Phone	7
Ship Emergency Procedures	8
Man Overboard	8
Ship Safety	8
Responsibility	9
Safety Equipment Provided	9
Work Vests and Hard Hats	9
Foot Protection	9
Placing Gear Overboard	9
Loose Equipment	9
Working Aloft	10
Accidents or Illness	10
Fires	10

General Regulations.....	10
Personal Regulations.....	11
Scientists	11
Harassment.....	11
Garbage.....	12
Recycling	12
Post Cruise Cleaning.....	12
Laboratories	12
MSTC Cruise Report	12

APPENDICES

Configuration And Equipment. 13

Vessel Drawings and Layout.	15
Ship Time Request Form.	17
Cruise Plan.	18
Insurance Status Form.	19
Medical or Special Needs Form.	20
Sailing List.	22

GENERAL DESCRIPTION

The Research Vessel Connecticut is owned and operated by the University of Connecticut, Marine Sciences & Technology Center. The R/V Connecticut was constructed in 1998 by the Washburn & Doughty Associates, Inc., East Boothbay, Maine. The vessel is well-suited for coastal research, ranging from day trips to extended cruises up to 10 days.

The R/V Connecticut is well equipped with modern navigational equipment to support research and instructional cruises in geological, chemical, biological and physical oceanographic research. Deployment and recovery of large current meters, buoys and buoy moorings weighing up to 5 tons, ROV, AUV operations, diving support and seismic profiling are tasks where the precise positioning capabilities of the vessel will be most advantageous to scientists. The vessel is equipped with dynamic positioning.

SCHEDULING

To schedule a cruise, an electronically submitted "Ship Time Request Form" must be approved and confirmation notice received by the PI. www.mstc.uconn.edu/shiptime.html Incomplete forms, or forms submitted less than four weeks prior to dates requested, may be rejected. A PO, contract #, or account # must be included as requested on the form.

A cruise plan must be submitted 30 days prior to departure. These forms will be emailed or mailed to the PI. Some cruises require significantly more advanced planning and may necessitate a conference with MSTC personnel as well as visits to the vessel.

Unexpected needs to put to sea or day trip requests will be reviewed on a case by case basis.

FINANCING

Principal Investigators should include ship costs in the budget of their particular research project. Operating days for the per-diem rates include the day of departure, all days while away from Groton, and day of arrival. Non operating days that will be charged is any day loading, setting up and unloading gear that requires crew and ship's power or cranes. These non operating/loading days will be charged on an hourly rate. Rates are available from the Marine Operation's Office and are posted on the MSTC Website (www.mstc.uconn.edu)

CANCELLATION POLICY

Cancelling 15 to 30 days before the planned cruise, a 20% charge (\$680) will apply to each cancelled day. 1 to 14 days before the planned cruise, a 50% charge (\$1700) for each

cancelled day will apply. An obvious over-booking of the vessel will be charged at the rate of 50% per day. Reasonable changes in the cruise plan may be made after sailing and with the concurrence of the master.

Cruises delayed by weather, equipment failure, or other logistics will be extended to complete the scheduled tasks providing the extension does not conflict with the ship's schedule. Efforts will be made to slide the proceeding cruise back, but this cannot be guaranteed.

SPECIAL HEALTH NEEDS

The Chief Scientist is required to complete a "Special Needs Form" (MSTC web site, filed electronically) for any member of the Scientific Party with special health problems, health needs, allergies, special dietary requirements and any prescription medication that will be aboard. A member of the Scientific Party with a disability must be brought to the attention of Marine Operations Office with the cruise plan. All attempts will be made to provide reasonable accommodations for this person

CHIEF SCIENTIST

As stated, the Cruise Plan designates the Chief Scientist for the cruise (this could be the PI or the Senior Scientist) for the scientific group. In the event of a cruise hosting multiple groups involving different sciences and objectives, one person will be designated as the chief Scientist prior to sailing. This person will work with the Head Scientists of other groups and the Master to assure a safe, successful cruise for all.

The Chief Scientist has the authority to determine the make up of the science party and assumes the responsibility to assure compliance with MSTC's Vessel Operating Policies are complied with.

SCIENTIFIC PARTY

Persons making up the scientific party will work with the respective head scientists and/or Chief Scientist to achieve a successful cruise. Prior to sailing, all persons making up the science party should watch the UNOLS Safety Video and will receive a safety orientation from the Captain or Mate.

INSURANCE

Medical and accident or worker's compensation insurance is not provided by MSTC for

persons on board who are not employed by the State of Connecticut and the University. It is the Chief Scientist's responsibility for providing the Captain, prior to sailing, an "Insurance Status Form" and medical form signed by each person in the science party. These forms can be printed off the MSTC Web Site or obtained from the office.

Personnel joining the science party must have a legitimate reason for participating in the cruise by association with the science program as researcher, research assistant, technician or student.

All non-MSTC personnel are considered ship board "Guest Investigators." Guest investigators and students from other US institutions embarking on the R/V Connecticut must be covered by their institution's worker's compensation insurance. All self-employed personnel or volunteers invited to participate on Marine Sciences & Technology Center's cruises must submit a completed Insurance Status Form. Visiting scientists from self-insured institutions, foreign universities or privately owned companies must provide documentation stating that responsibility for their participation is accepted by their home institution or privately owned company as primary insurer.

DIVING

All diving operations must be pre-approved by University of Connecticut Dive Safety Officer. 860-405-9137. www.marinesciences.uconn.edu/dive/divelink.html

SWIMMING

There will be no recreational swimming from the vessel.

HAZARDOUS MATERIALS

The Principal Investigator must notify the Marine Operations Office via the Cruise Plan of the potential use of gasoline, explosives, or special chemical and radioactive materials. Because operations using hazardous materials may require permits or complicated procedures the Cruise Plan should then be submitted well in advance.

All hazardous materials that will be aboard for the cruise should have MSDSs' attached.

Any licenses or permits required for particular hazardous materials or radioactive material must be issued to the MSTC Marine Operations Office and forwarded to the University's EHSD. Any licenses held by the University of Connecticut does not cover materials obtained and brought aboard by other entities. The head scientist responsible for these materials must be licensed, if applicable, and knowledgeable in the proper handling, storage and clean up practices for said materials.

Stow toxic solutions carefully. If acids are used, provide buffering compounds. Provide antidotes for poisonous chemicals. Scientific equipment or samples are not to be placed in

galley refrigerator or freezer. For more detailed information, see the MSTC “Response Plan for Hazardous Materials Spills.”

Products that pose a threat to the environment must be handled with utmost care. A product spilled on deck must be contained and cleaned up. Cleaning materials become hazardous waste and must be disposed of properly by R/V Connecticut crew.

A hazardous material that enters the environment must be reported to the bridge immediately so the crew can attempt recovery and clean up procedures.

Never dispose of any chemicals, acids or hazardous materials down ships drains. For more detailed information, see the MSTC “Response Plan For Hazardous Materials Spills.”

USE OF RADIOISOTOPES ABOARD VESSEL

The use of Radioisotopes will be allowed only after permission from the UConn Radiation Safety Officer has been obtained This generally requires several months.A separate van will also be required Early planning is encouraged.

WASTE DISPOSAL

A statement of the arrangement to be followed for collecting, storing and disposing of all waste generated in the experiments must be provided. The University is not authorized to dispose of any waste at sea nor in port of another institution’s products. Therefore, all waste must be returned to shore for disposal by the investigator’s home laboratory. Clean up of materials discharged aboard the vessel will be the responsibility of the Principal Investigator.

LOADING AND OFF-LOADING

At the Avery Point facilities, or in other domestic ports, the R/V Connecticut can load or off-load packages up to 5,000 lbs. At the 5,000 capacity, the crane is fully extended giving a reach of 8' beyond the side of the vessel. Extra heavy loads may require commercial shore crane service.

The R/V Connecticut will normally be loaded the day prior to departure 1300-1600 and off-loaded on the day of return. When it is necessary to set up equipment prior to this, consult with the Marine Operations Office in advance to determine that such operations will not interfere with ship’s normal maintenance and logistics. Be sure to include these dates when filling out the appropriate forms.

Loading and off-loading days must be scheduled in the Cruise Plan. Additional cost of a commercial crane is the responsibility of the user.

ARRIVAL AND DEPARTURE OF SCIENTIFIC PERSONNEL

Home Port: Normally the scientific party will board the vessel on the day of departure from port and depart the vessel soon after arrival in port. Generally, cruises begin at 0600 or later.

For 24 hour operations, a scientific party of 7 can be accommodated for berthing. Food is not available other than underway days. Modifications to these policies should be made in advance with the Marine Operations Office.

MEALS, LINEN AND CLEANING

With the exception of 24 hour cruises, the crew aboard the R/V Connecticut does not provide for cooking or cleaning services. Where applicable, these duties must be shared by the crew and scientific party. Areas to be jointly cleaned include the work decks and labs.

Unless other arrangements are made between the PI or Chief Scientist and Marine Operations, the following meal policy will prevail:

Day cruises 12 hours or less in duration food is not provided

Cruises of 24 hour operations and/or multiple 24 hour days - complete 3 meal menus with open galley for sandwiches, snacks and hot or cold beverages.

Attempts will be made to meet special dietary requirements provided sufficient advance notice is given.

Bed linen is provided with limited supply of pillows and blankets.

USE OF FRESH WATER

Conserving water is important. The limited supply dictates it is used most sparingly.

FOUL WEATHER GEAR

This is the responsibility of the scientific party members.

COMMUNICATIONS, SHIP'S INTERCOM

Communications are integrally available from the lab, pilot house and galley. Two way communications are available to the pilot house via VHF radios available by request to the Captain.

MARINE RADIO-TELEPHONE

Calls via maritime radio-telephone system ashore can be made from the bridge with the Master's authority on a billing number or collect call basis only.

MARINE RADIO

Communications of the Scientific Party with a shore based person are available on a limited bases from the bridge VHF radio for work related items. Should there be frequent communications anticipated due to nature of the work, the Scientific Party should provide their own means of communication.

CELLULAR PHONE

The cellular phone is not to be used for outgoing or incoming calls other than on an emergency basis. Should considerable cell phone use by Scientific Party be anticipated, they should plan to provide their own. Cell phone number: 860-823-9420

Brief messages can be relayed through the MSTC Marine Operations Office Base Radio Station, Monday through Friday 0800-1600 hours. For shore based personnel needing to convey information to the ship, please contact Marine Operations 860-405-9178 or email msiadm12@uconnvm.uconn.edu EMAIL can be sent and received from vessel. Individual accounts may be set up. Cost must be covered by user.

SHIP EMERGENCY PROCEDURES

Emergency procedures and watch station bills are posted on the bulletin board in the passageway between the wet and dry lab. Take note of stations to which the Scientific Party is to report in the event of Fire, Abandon Ship or Man Overboard emergencies. Also posted are the whistle and bell signals for the various emergencies. Everyone must attend the pre-cruise safety briefing by the Captain. Dependent on time of year, type of work planned, etc. the Captain will convey in detail all safety regulations that must be complied with.

MAN OVERBOARD

Call out “man overboard” as loudly as possible, indicating the side of the ship from which the victim fell. Throw a life ring immediately. One life ring with a lanyard and light is on the main deck between the doors to the wet and dry labs. Another life ring with a lanyard and light is on the port side aft of the pilot house door and a third life ring without a lanyard and light is on the front of the pilot house. Note their location and arrangement of lanyard and light. Keep an eye on the victim to direct vessel for the recovery.

SHIP SAFETY

For personal safety, do not lean on, sit on, or hang over life rails and life lines.

The following regulations and procedures are set forth as a guide to ensure the safety of the ship and its occupants. Common sense and respect for fellow shipmates will contribute to a pleasant cruise with the fewest possible problems.

- 1) While underway, keep all water tight doors and hatches closed and dogged as directed by the Captain’s “Safety Briefing.”
- 2) Engine spaces are off limits to all but ship’s crew.
- 3) Members of the Science Party will not be allowed to operate deck machinery.
- 4) Report any abnormalities to the Master.

RESPONSIBILITY

The Master is responsible for the safety of the ship, its crew, and the Scientific Party. The Engineer also represents and exercises the Captain’s authority. The Chief Scientist is responsible for the safety of the scientific operations and is subject to the Captain’s authority on decisions regarding safety.

SAFETY EQUIPMENT PROVIDED

- 12 Immersion suits
- 12 / 40 SOLAS Type I PFD’s
- 12 Work vests
- 12 Hard hats

WORK VESTS AND HARD HATS

When working on deck, work vests or life vests or other comparable Type 1 or 3 life saving devices will be worn. Hard hats will be worn by personnel on deck when there is any overhead operations ongoing.

FOOT PROTECTION

R/V Connecticut crew are required to wear steel toed shoes when involved in on-deck operations. It is highly recommended that the chartering institution provide adequate foot protection for all Scientific Personnel who will be directly involved in on-deck operations.

PLACING GEAR OVERBOARD

Before putting gear over the side, obtain permission from the bridge. To avoid confusion, one designated person will direct and coordinate with the Captain or the bridge all deck operations.

LOOSE EQUIPMENT

Prevent injury to personnel or damage to the ship by stowing and lashing all unused gear. Operating controls, emergency exits, passageways, winches and fire fighting equipment must not be blocked or obstructed with gear. Doors should be closed firmly or hooked in the open position. Never allow a door to swing free.

WORKING ALOFT

Unless it is very important, no one is allowed on the Pilot House Roof or up the masts while the vessel is underway. The ship provides safety belts. Prior to going aloft, permission must be granted by the Master or Mate on watch.

ACCIDENTS OR ILLNESS

All accidents and illnesses must be reported to the Master, as directed by the Federal Law. Accident Report Forms are required to be filled out. First aid items are available. Common medications are not regularly kept aboard. You must provide your own pain medications, motion sickness medication and sun blocks.

FIRES

Although there are fire and smoke sensing alarm systems aboard, be alert to and report any conditions or concerns to the bridge. Fires aboard ship are very serious and much more difficult to control than fires on shore. Every effort should be made to avoid conditions that might cause a fire. Fire fighting equipment should not be obstructed by gear or clothing. Do not

use light fixtures for clothes hangers or rig temporary shades of flammable material over lights. The pilot house should be informed prior to transferring volatile liquids. In the event of an emergency, stay clear of the scene of a fire, but be prepared to assist if requested by a crew member. Learn the location of all fire-fighting equipment before the ship leaves port.

GENERAL REGULATIONS

Tools and equipment: Although ship's tools and stores are available to all personnel while at sea, please try to anticipate your needs and bring your own tools and supplies. These items may be obtained by contacting the Engineer. Return them immediately after use, please wash salt water off all tools. Consult ship's crew if you wish to use a piece of equipment with which you are unfamiliar. All deck machinery will be operated by the ship's crew only.

Damage to Ship and Facilities: Protect the ship from damage when handling gear and hazardous materials. Try not to scar decks, paint, and woodwork. Please avoid using tape as a hold down material. Do not deposit paper towels, sanitary pads, or similar materials in a marine toilet. Use a waste basket or other receptacle provided for that purpose.

Do not use bedding or life jackets on deck for sunbathing or other uses.

Water Tight Hatches: All water tight hatches must be closed and dogged while underway. Only the Master may designate hatches that may be secured in an open position.

Bridge and Engine Room: The bridge and engine room can be visited with permission of the Master or Engineer.

Assistance to Crew: Requests for assistance from Scientific Personnel will be made through the Chief Scientist.

PERSONAL REGULATIONS

Prohibited Items: The possession or use of alcohol is not permitted. Narcotics, marijuana or similar substances are prohibited. Firearms are not permitted on board.

Orderliness and Cleanliness: Keep clothing and personal gear stowed. Keep berthing area clear of shoes and rain gear. Do not leave paper towels and like debris, tie raps, electric tape, scientific equipment, and tools scattered around ship. Pick up, even if it is not yours.

Consideration for Others: Avoid excessive noise, because your shipmates may be resting, sleeping or working.

SCIENTISTS

Members of the Scientific Party, observers, principal investigators, funding agency personnel, scientists and students aboard are not considered crew. They are not allowed to participate in operations directly involved in operating the vessel.

HARASSMENT

In the event a crew member or member of the scientific party feels harassed, it must be reported to the Master and/or the Chief Scientist and acted upon immediately. There will not be any blocks in the chain aboard to prevent anyone from coming forward to report an alleged incident.

The Head Scientists, Chief Scientists, Engineer and Master will all be aware of this policy and be open to hear any complaints. No one aboard will be immune to reproach. Either the Master or Chief Scientist will document the incident obtaining and recording all the information. The Chief Scientist or Master will confront the individual accused and inform this person of the situation, and document this person's reply, then inform this individual that this behavior will not be tolerated aboard.

Whether the incident is real or a misunderstanding, a written report and the documentation must be submitted to the Marine Operation's Manager.

The Marine Operation's Manager will review the report, speak to those involved and decide if appropriate action had been taken. If all parties are satisfied, and based on University Policy decide what further, if any, action must be taken. If any parties are not satisfied, the University of Connecticut Human Resources Department will be contacted to assist in resolving the issues.

GARBAGE

All persons are advised that dumping garbage of any type is not allowed. From food stuffs to plastics, nothing is to be discarded over the side.

RECYCLING

All empty deposit type items will be stowed in a marked receptacle in the galley. All #2 plastic, glass bottles and cans washed out will be stowed in a marked receptacle for these items in the galley. All other items (garbage) will be disposed of in trash containers in the head, lab, pilot house and galley. (For more detailed information, see the MSTC "Waste management Plan.")

POST CRUISE CLEANING

To provide clean living quarters for the next scientific party, it is necessary that each occupant clean his or her berthing area before departing the ship.

LABORATORIES

Wash down bulkheads with soapy water, sweep the deck, wipe down cabinets, scour sink, empty trash can. Remove all instruments and equipment. Pick up debris and swab the deck. The crew will provide all cleaning equipment and advice.

If these areas are not cleaned to the standards of the Master and additional cleaning is required, the Scientific Party will be billed an additional fee to cover cleaning costs.

MSTC CRUISE REPORT

To evaluate the success and shortcomings or failures of a cruise, MSTC has established a "Ship's Operations and Cruise Report." There is one for the Chief Scientist and one for the Master. These are to be completed and turned in to the Marine Operations Manager. Using these reports as tools to build a better, safer operation will benefit the Scientists, the ship and crew.

CONFIGURATION AND EQUIPMENT

DESCRIPTION: Steel hull, single screw, diesel powered research vessel, outfitted for year-round coastal and near continental shelf service.

- Builder: Washburn and Doughty Associates, Inc., East Boothbay, Maine
- Launch Date: August, 1998
- Home port: Groton, CT
- Inspection: Passenger vessel (subchapter T)
- Accommodations: 12 berths
- Crew: 3-5, depending on mission
- Day trip capacity: 30 persons
- Endurance: approximately 10 days

PRINCIPAL CHARACTERISTICS:

- | | | |
|---|-------------------------------|---|
| • | Length, molded | 76'-6" |
| • | Length, design load waterline | 70'-0" |
| • | Beam, molded | 26'-0" |
| • | Depth, molded | 10'-4" |
| • | Draft, molded amidships | 7'-0" |
| • | Fuel oil capacity (approx.) | 5500 gallons |
| • | Maximum speed (calculated) | 11 knots |
| | Crusing speed | 10 knots |
| • | Fuel consumption | Approx. 35 GPH @ 10 Knts (cruising Speed) |
| • | Maximum height (approx.) | 50'-0" |
| • | | Minimum speed |
| | | 1.0 knot |
| • | Gross regulatory tonnage | 94 |
| • | Fresh Water Capacity | 2400 gallons |

MACHINERY:

- Main engine: Caterpillar D3412 DITA, 825 BHP @ 2,100 rpm, "C" rated
- Bow thruster: Schottel SPJ-22 pump jet, direct driven by a Caterpillar D3116 DITA, 205 HP @ 2400 RPM
- Stern thruster: Schottel SPJ-22 pump jet driven hydraulically by a Denison M4 SE-185 pump coupled to either generator (147 HP @ 2150 RPM)

EQUIPMENT:

- Stern A-frame: (18' high X 15' wide) Contractor fabricated, 23,000 lb. capacity. Coordinated with a Hawbolt HFS-1235P heavy duty winch. Drum capacity: 1200' of 5/8" wire: Full drum line pull: 10,000#
- Oceanographic Winch: "Inter Ocean" electric winch with 1,500' of 7 conductor EM cable: 1000 lb lift capacity
- Oceanographic Winch: "Sea Mac" electric winch with 1,500' of single conductor EM cable - 300 lb lift capacity

- Deck Crane: Alaska Marine Crane MCK-623 with self contained 40HP electro-hydraulic power pack and controls. 9,700# lift capacity at 15'; 5,000# lift capacity at 23' extension
- Trawl Winches: Two Hawbolt SFD-0620 winches with a drum capacity of 2,100' of 3/8" wire, full drum line pull of 3,600#. Mounted on focsle deck and fair lead through A-Frame brackets.
- Capstan: Hawbolt C-41 rated at 4,000# pull @ 30fpm @ 7gpm. Subframe can be repositioned on deck socket system.
- Boat Davit: Pilothouse-mounted davit with a 2,500# working capacity to launch/recover an R.I.B.
- Communications: Cellular phone, satellite voice and data transmission @ 4800 BPS, SSB, VHF, computer networked with shore-side Internet connectivity

ELECTRICAL POWER:

- Two Diesel generator sets, Caterpillar D3304 DIT, each rated 105KW @ 1,800rpm, 208 VAC, three phase. Each genset will be configured to hydraulically drive the stern thruster.
- Wet/Dry labs equipped with two GFCI protected 110 VAC perimeter circuits, one 50 amp, one 30 amp, each lab will also have 208 VAC, single phase receptacles
- Van/Deck connection: 100 amp, 208 VAC, three phase receptacle, weatherproofed
50 amp, 208 VAC, single phase receptacle, weatherproofed
30 amp, 120 VAC, weatherproofed receptacle

ELECTRONICS: 2 Furuno 1942 Radar 1 Furuno cv/1000/36 color sounder (50/200k)
1 SGC SSB 2 Icom VHF
2 Northstar GPS Call Sign - WCY 4995
Intercom system w/speakers on for and after deck
Loud hailer system in pilot house
Trimble, Attitude GPS (heading, pitch & roll to 0.1° accuracy updated 10X per second)

SCIENCE CAPABILITY:

- Science mission payload is approximately 12 tons
- Science vans up to 20' in length can be accommodated
- Wet lab, large 2 section deep sink, fume hood, Labconco 29048, salt water supply available
- 20" diameter well pipe located amidships. Features main deck access plate with conduit connection to the dry laboratory, reconfigurable transducer mounts
- 18" Dia. transducer dome available for mounting various types of transducers. Otherwise, it is a dedicated ADCP well w/a RD Instrument "Workhorse ADCP"
- Data transmission and storage to be determined.
- Interior of vessel is air conditioned
- Work deck area Approx. 625 sq. ft. w/20 X 8' van - 325 sq. ft.
- Wet lab area Approx. 100 sq. ft.
- Dry lab area Approx. 96 sq. ft plus miscellaneous 64 sq. ft
- Service boat: RIB 14' 25 HP-OB

NOTE: Work deck area has the standard (2' X 2' grid) deck socket system. There are also deck sockets in the wet and dry labs.

INSERT SHIP'S SCHEMATICS

INSERT SHIP'S SCHEMATICS

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Scientist, etc.)




