LIGHT (HYDRO) WINCHES
TRAWL WINCH
SEABEAM
PRECISION NAVIGATION (GPS)
SUITE OF UNDERWAY GEOPHYSICS
EM WINCH AND CABLE
COMMON FEATURES:

15-25 People
Abundant Clean Power
Endurance Priority
LARGE INSTRUMENT LAB
LARGE COMPUTER LAB
GLORIA / SEAMARC II CAP.
Source Towing Facilities
Hi Pressure Air (1500 SCFM)

25-35 People
Moon Pool
Seeking Priority
INSTRUMENT LAB
Dynamic Positioning
ROCK/HYDRO LABS
Submersible / ROV's
Deck Space Galore

STATION SHIP (270+ f.)

UNDERWAY SHIP (220+)

A General Purpose Station Ship vs. an Underway

FUTURE LARGE RESEARCH VESSEL NEEDS

Appendix M
still serve a purpose in oceanographic research. It does not seem to reason why considerations cannot
reasonably-practical modification, there is no reason why considerations cannot
but, if a ship or free hull can be found which provides the basis for a
the larger scientific parts which stress those curves are also required.
complex with the advent of multistrand fendering courses. Accommodations for
and imported for the scientific work, which has become much larger and more
not so low to stow a wet deck. Space should be available both on deck
draft. Low freeboard for ease of over-the-horizon, as described, though
moderate to rough weather, and this often impairs a fairly large size and
keeping the qualities of general to permit doing the planned work at least
ship, compared to the initial investment. One would want a hull with sea-
cases are generally important, since they will be large, over the life of the
large enough to construct a major budgetary, undisturbed block. Operational
is a first consideration, especially since construction costs are becoming
cases would still be valid. Low costs, both for acquisition and conversion,
If one were to go through the same procedure now, the same pro-
At that time,
low cost, and managed to carry out most of the science which was being done
important was that they were readily available when needed, usually at very
and it was modified as well as possible from that point. What was
at random; one was chosen which had many of the desired qualities to start
resulted, combined all that was desirable, the ship was chosen which had many of the
80-foot space. It was selection if ever there was any, even in the glow of new
had good accommodations! Some were excellent for over-the-horizon work! Some had
then serious and basic limitations. Some would be good fighting hulls; some
and trouble, this seems to have been done with some dexterity
who did carry out the bulk of research from the beginning of oceanography
versions whether early or late. About the most that can be said is that
It is impossible to generalize about the success of past con-
that this class was a reasonably successful conversion in most of the con-

For coming large dredges or cranes, the general recollection seems to be
be done over the stern only with some difficulty, which made it inconvenien-
tent. One drawback was that their main working area was forward, work could
locations, but other cases were one or two decks below, which was inconven-

utty placed on the main deck in close proximity to the overhead handlin-

treat which could be put below-decks out of the weather. Merchandise were us-
to keep them and communications layout, but could typically carry about a doze-
reduced a considerable crew due to their nature, hotel-

Washington, Nev., Idaho, Cal., and Idaho; 67 Boats at Texas. Also, Rhode Island.

water, variously modified to meet local needs. 1-Boats were found at

recommendations deserve special mention: The Army "Y-Boat" and "FS" -- Freight

20 classes of conversions used extensively during this period at

replacement.

important to buy up even when Navy provided the specialized-builer CONRAD

In particular, is remembered as a+ especially worthwhile, which Lamon was re-

nothing, and often surprisingly good for the work demanded of them. VIMA

about all that can be said as a generality is that they were better than

Productive messess, with plenty of deck space aft and lab areas inside.

these converted Navy salvage ships are fondly recalled as fine, easy-handlin-

typical of this assortment. Notable were CHINN and ACOO at WHOI and SIO;
Vegetable gardens, wheat fields which would "pitch you out of your bunk", and before a wet-decked rough rider which would be adequate for the neuroscience and neuroscience work which preoccupied...

The use of conversions for International Research continued until 1969. When both Navy and the National Science Foundation embarked on programs of building research ships. In fact, only Altair was at WHOI and...
industry. Chemicals become that when gold hits $600 per ounce, seawater

economically feasible then, due to the low controlled price of gold, but
pay off their MM-1 war debts. It's interesting to note that this was not
chemical research, to evaluate the extraction of gold from seawater to

The Germans in 1972 tested the METOR (ex-Estonian) primarily for

little more than tracking things and observing sea surface temperature.

related to the international Ice Patrol in 1972, which at that time involved

ship (after ALBATROSS). The Navy cruisers PEARL HARBOR and CHESTER were de-

netic observations, thus making her the second purpose-designed research

the non-magnetic hull CANTERBURY, deisgned almost entirely for marine mag-

acter of the same name, a General Purpose Research Ship. This was succeeded in 1970 by

-1905 (R), a General-Purpose research ship. This was succeeded in 1970 by

climate南部). These included the Carnegie Institution's CALIFORNIAN (sailboat cargo,

reconnaissance science ships, most of which had some true research component.

In the late 1980s and early 1990s there were a number of other

a few labs added.

that it was basically a trawler hull, including stern trawl frames, with

specificaly-built Instrumentation research vessels. It should be noted, though,

ALBATROSS IV, put in service in 1987, was again (after a country lapse)

and II were ex-trawlers.

the building of the first ALBATROSS. ALBATROSS II and III were ex-trawlers,

for fisheries research, things had reverted to conversations since

life. It was more than adequate, and the hulls had a long and highly productive

hull, scientific space and living quarters for the science party of about

since the scientific equipment was microscopic compared to the size of the

was highly stable, which at that time meant large size and deep draft.

both in support of missile-launching submarines. The goal in both cases

echosounders and related gear, and the latter primarily scientific equipment,

the two SHOOP class-ex-trawler transports, the former carried multipurpose

stations. These were the three ROMPEL class converted Victory ships, and

and magnetic equipment. In the 60s led to the last set of Navy conveys-

The advent of multi-beam echosounders and good marine gravimetry
They were reported to be quite adequate for what they were required to do.

Oceanographic equipment, since they were primarily single-purpose ships,

blitzes for lowering or comming large, heavy acoustics arrays and associated

missions comprising (tanker and winch (cargo ship), HUSSAR, (LCH), CRIBS (seaplane tender),

such as MASSAVOIT (escort ship), HITTING (LCH), among others, which were used to support acoustics and related research. These included

which were used in support of acoustics and related research. These included

The Navy also had during this period guest-oceanographic ships

and of vastly deep draft,

designed to carry out. They had good sea-keeping qualities, being heavily

designed, to a degree, to carry out. They had good sea-keeping characteristics, being heavily

on whom as being rather comfortable and productive for the work they were

enseigne’s were assigned. These hulls are remembered by those who sailed

drivers and assistants for the over-the-hull’s party or duty service. A party or duty service. A

the Navy’s most problems. Since the crew was not involved except as ship-

at sea and not within the acoustics and oceanography, and acoustics, to support of

in service until 1970. They had been modified and remained

In 1949 the Navy fielded the first true oceanographic research

poorly maintained.

For personal or equipment, and consequently were often short-handed and

drawback was that these ships were rather high on the list of Navy priorities

there was usually very good cooperation and productively. Perhaps the major

above expectations between the military crew and the scientific department,

ships to a dozen or more on the large tenders. While the remaining

assistance from the naval personnel (consist of three men on the small

requirements were minimal. Scientific parties (in addition to warm-body

requirements were preserved and returned to the hydrographic office. For work-mp, so many

frames’ little or no sample processing was done; on board; most samples

frames, and this was easily done via specially-trained machines and a-

deployed, and this was easily done via specially-trained machines and a-

products, which received echograms was to digitise shallower bottom samples.

The oceanograhi was provided to fill the gap that existed in

positioning, and plotting, plus the capability to fill those surveying

for hydrographic work, which required only smalltites for an echosounder,

operation until the late 1960s. In general, these were quite satisfactory

(Sheldrake class), as well as tug's (Alcoa) (Eagle) class, and steet-hulled ones

both wooden-hulled minesweepers (Harpoon class) and steel-hulled ones.
TRANSPORTS (TANNER and MAURY) plus accompanying smaller survey ships from convoys to Russia. The two major hydrographic ships were converted from troop transports. The two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports, the two major hydrographic survey ships converted from troop transports.

(TRANSPORT, 1942-46) and SUMNER (Supreme Warship, 1942-46).

1941-1944: NOXOMIS (Yacht, 1941-44); CANNON (Military, 1941-44); ENTERPRISE (Corvette, 1942-47); HANNIBAL (Corvette, 1942-47); HANNIBAL (Corvette, 1942-47).

Party conversions used were ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE, ENTERPRISE.

made to realize the concept of concentrating qualified officers and sailors.

the measurement of concentration in composition. Not until after WW-II was an attempt made to realize the concept of concentrating qualified officers and sailors. The same was true for the measurement of concentration in composition. Not until after WW-II was an attempt made to realize the concept of concentrating qualified officers and sailors.

The Navy, on the other hand, maintained a strong personnel capability.

Both from Congress and the Navy.

expanded its oceanographic research into global scope, and ran into resistance.

This led to administrative hassles in the 1950-70 period when NOAA tried to control...

They desired (and the Coast Survey being transferred to U. S. Territorial...)

Naval Hydrographic Office responsible for the entire world (including the U. S. oceanographic activities). This was because there were at the time the oceanographic survey was replaced with the present cadre of NOAA.

a conservation for them to be replaced with the present cadre of NOAA. The Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took the Navy's and officer-scientists from coast survey duty, and it took...
Straitly critical on the importance of the research, and probably felt also cooperation from the crew was reported to be excellent; they had been trained as crew, dozens and dozens are almost the same as those used today. Perhaps surprising, how many of the mechanical aspects dealt with were of rubber shock absorbers, for example, to minimize surge loads while a handline was handled was introduced, plus a "slice of the art" over the handline, was the overall equipment and appearance well fitted out for science. The best

The capability, then challenged, the first true 80-foot research ship, was a

These few specially-built scientific ships were always in the minds-

Near one being ATALLROSS.

By the way over the last century by a succession of the same name, the cur-

tue oceanographic research ship, ATALLROSS, in 1982. This has been follows-

where the ship had gone (cross overship), and by constructing the first

and existing hulls. The ship commissioning achieved much more by the end of

General marine physical. All of these operations initially used Navy, carried

the creation of the first commissioning into the new fleets of frigates and

do science far beyond that of the current coast survey. And in 1977

hydrographic office just after the cwtl war increased our national capability

bottom sediments, and photographic observations, the establishment of the Navy

ography such as lights and currents, surface temperature, winds and waves,

hydrographic surveys included many things which we would now call ocean-

cart ships in doing hydrography. At that time, and for many years after,

the Nautillus, an 80', schooner-built for coastal surveying in 1898

the various areas

of which were, at the start of WW-II, still the only chart available for

nautical history dealt, the expedition produced 100 nautical charts, about 30

and all the others, were standard Navy or commercial hulls, with minimum

flagship (at 127'), about the same size as Beware is Cape Rennell. She's

first ships built for scientific purposes. Unfortunately, they were too

...
The exploration vessel "Consort" and "Pioneer" of the U.S. Exploratory Expedition made the first charts of the area.

In 1837, the schooner "Marina" was anchored in New London harbor. The foreman of the coast survey, Longfellow, "Old Ironsides" with a 36-foot boat, one of the first was the "Constitution," Old Ironsides, which did the explorations, and some of them were very little changed from their original explorations. "Constitution" is the father of the national exploration and hydrographic surveying, was done on many of the coasts of the U.S.

Conversions have a long tradition. The early work on "Constitution" of the poorer designs, which was probably as good as the average new-built ship, and better than any ship not built for the purpose were the very few that were done. A couple of them and the circumstances of about a dozen others.

A few thoughts on conversions based on history, my own use of several of the early government hulls could be converted to oceanographic use. Here are some thoughts on the question of whether some exist. It has been noted, though, that many ships which were built for the purpose have some shortcomings. The last twenty years, converting various hulls into oceanographic platforms, as a source of the national oceanographic research platforms.
Future Mechanisms

Computer-Assisted Scheduling - Langford & Spess
ONR Funding for UNOLS Vessels - Kauhunen

Miscellaneous

Opportunities Proposal for PCI - Nowlin

Surplus Federal Vessels - Nowlin
Treadwell's Report
Survey of Intermediate Users for Suggested Improvements
Survey of Cape Class Users/Operators for Suggested Improvements

Kauhunen

Status of ACOOR-23 Procurement - Dimmumore

Status of KNOR/MELVILLE Reels - Dimmumore

Poland Research Vessel
Should we be considering a Submarine? - Robinson
Ice Capable - Small - Dimmumore
General Purpose - Small - Robinson
Distinctive - Deep Ocean Platform - Spess
Table - Deep Ocean Platform - Spess
Science Mission Requirements - Spess

Swath Censors - Dimmumore
Giovanni Design - Monmouth - Spess
Advanced Designs

Requirements for G and C capable vessels - Langford & Gourish
UNOLS Vessels - Documented by Treadwell
Academic use of non-UNOLS vessels and non-academic use of
Science Plans and Unique Fleet Requirements - Murphy
Case Histories of Alternatives to Federal Funding - Gourish
Fleet Plan Considerations

Washington, D.C.
RM 332 Joseph Henry Bldg.
II-12 May 1987
UNOLS Fleet Improvement Committee Meeting

Agenda

Appendix 1