

## Hydrographic Survey Cost Analysis

### **The HSRP finds that:**

The cost basis for conducting hydrographic surveys are not directly comparable between NOAA and the private sector. However, some level of comparison is warranted to provide policy makers insight on relative cost differences to help them make more informed decisions that establish target allocations of hydrographic surveys between the public and private sector. The HSRP strongly recommends against making such decisions based solely on a cost comparison that is difficult, if not impossible, to account for all associated government costs. Further, decisions should include the consideration of the volume of critical survey backlog, the ability for the government to obtain and maintain assets and qualified personnel, the type and volume of assets available, the advantage of building a knowledgeable and competent private industry that can readily adjust capacity as needed to improve safe passage of vessels, and the added value to efficiency of nautical charting by the exchange of technology and innovative methods between the public and private sectors.

The cost analysis conducted by KPMG lacked sufficient detail and included a large number of approximations and estimates. Further, a one-dimensional, comparative-cost metric, such as cost-per-square-nautical-mile, should not be used as the sole comparison in attempting to establish the appropriate balance between public and private hydrographic surveys. Despite the obvious attraction of a simple metric, previous cost-comparison studies and reports have failed to withstand critical review.

### **Therefore, the HSRP Recommends:**

NOAA should conduct a more exhaustive Hydrographic Survey Cost Comparison in an attempt to provide a more “normalized” cost comparison than the KPMG study. The study should be modeled after the approach as presented to the HSRP in a memorandum entitled Hydrographic Survey Cost Comparison – Methods and Procedures dated May 11, 2005 (attached). To the extent practicable, actual costs should be utilized as opposed to estimates.

- The following are further recommendations for the study:
  - In addition to government costs detailed in the May 11<sup>th</sup> memorandum, the compilation of government costs should include all project costs associated with the production of the final smooth sheet including but not limited to:
    - From a vessel perspective, costs should include an appropriate portion of the following: transit time, days in the project area, days in port, mechanical and weather delays, maintenance, refit and any other costs associated with vessel operation.
    - From a personnel perspective, costs should include benefits, recruitment and training.
    - From an equipment perspective, costs should include amortized cost, maintenance, repair, R & D and technical support.

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- All requirements necessary to produce the final smooth sheet, which may include but are not limited to the hydrography, shoreline verification, tides, geodetic control, cartography, quality review and reporting.
- A full-on A-76 study is not recommended and A-76 cost factors need not be strictly adhered to. However, A-76 guidelines should be reasonably followed to get to the bottom of true NOAA costs.
- NOAA should compare surveys of a similar nature. In addition to those detailed in the May 11<sup>th</sup> memorandum, the categories to consider should include:
  - 100% multibeam coverage
  - 200% side scan sonar coverage (with and without multibeam)
  - LIDAR
  - AUV and other emergent technology when a sufficient number of projects warrant
  - Year of survey (should normalize technology advancements)
  - Region and accessibility
  - Bottom characteristics (depth, bottom type and irregularity)
- Sufficient projects of each type shall be selected to enable the meaning out of anomalous conditions as opposed to using a representative sample as suggested in the memorandum. Projects should not be eliminated from the study because they had excessively anomalous conditions.
- NOAA should not limit the measure of progress to square nautical miles. A wider variety of metrics will provide insight into anomalous results. Other indicators that should be evaluated should include, but not be limited to:
  - Linear nautical miles
  - Days at sea
  - The ratio of linear nautical miles to square nautical miles
  - The ratio of linear nautical miles per day at sea.
  - The number of contact investigations, AWOIS and developments.
- NOAA should include a caveat in the final report that states the difficulty in obtaining a normalized comparison and that no tables or figures are intended for stand-alone use.
- NOAA should develop more precise project cost accounting programs and methods to assist in on-going and future studies.
- NOAA should pursue the modernization of the aging NOAA surveying and mapping fleet to provide more efficient platforms and meet the needs for current and future technology.