

**SECTION 905(b) (WRDA 86) ANALYSIS
CRAIG SMALL BOAT HARBOR, ALASKA**

1. STUDY AUTHORITY. This General Investigations study is authorized by the U.S. House of Representatives Public Works Committee Resolution for Rivers and Harbors in Alaska, adopted 2 December 1970. The resolution states in part:

Resolved by the Committee on Public Works of the House of Representatives, United States, that the Board of Engineers for Rivers and Harbors is hereby requested to review the report of the Chief of Engineers on Rivers and Harbors in Alaska, published as House Document Number 414, 83d Congress, 2d Session; ... and other pertinent reports, with a view to determine whether any modifications of the recommendations contained therein are advisable at the present time.

Funds in the amount of \$95,000 were appropriated in Fiscal Year 2001 to conduct the reconnaissance phase of the study.

2. STUDY PURPOSE. The purpose of the reconnaissance study is to determine if there is Federal (Corps) interest in participating in a cost shared feasibility study of the viability of providing navigation improvements to Craig, Alaska. This reconnaissance study was initiated in March 2001. The purpose of this Section 905(b) Analysis is to document study findings and, if Federal interest is warranted, establish the scope of the feasibility phase.

3. LOCATION OF PROJECT AND CONGRESSIONAL DISTRICT. Craig is located on the west coast of Prince of Wales Island, approximately 55 air miles northwest of Ketchikan. The population of Craig was 1,397 in 2000. The island is dominated by a cool, moist, maritime climate. Summer temperatures range from 49 to 63 °F; winter temperatures range from 32 to 42 °F. Average annual precipitation is 120 inches, including 40 inches of snow. The project area is shown on the Figures 1 and 2.

The non-Federal sponsor for the feasibility phase of the study is the city of Craig. The study area is in the Alaska Congressional District, which has the following congressional delegation:

Senator Ted Stevens (R);
Senator Lisa Murkowski (R);
Representative Don Young (R).

4. PRIOR REPORTS AND EXISTING PROJECTS.

a. Prior Reports.

- U.S. Army Corps of Engineers. "Small Boat Harbor, Section 107 Reconnaissance Report," May 1993. This study evaluated the economic viability of navigation improvements at the North Cove Harbor site.
- BST Associates. "Craig Small Boat Harbor Expansion Study," April 1992. This study was prepared to evaluate the existing socioeconomic conditions at Craig and provide data to aid in decision making on the requested expansion of the North Cove harbor.
- U.S. Army Corps of Engineers. "Navigation Improvements for Small Boat Harbor, South Cove Harbor," October 1979.

b. Existing Projects. The South Cove Harbor is a Federal project and provides a mooring basin with 110 slips and an entrance channel, both at a depth of -11 feet MLLW. Two overlapping breakwaters protect the basin. Vessels using the South Cove harbor are a mixture of smaller commercial and recreational vessels.

North Cove harbor provides 105 slips. A floating breakwater protects the majority of vessels moored at this harbor. The city dock provides 12 slips for a total of 227 public slips. Commercial vessels use approximately 70 percent of these slips, while the remaining 30% are used for recreational vessels. Several unprotected docks, primarily privately owned, are located on the north side of Craig Island.

5. PLAN FORMULATION.

a. Identified Problems.

(1) Existing Conditions. Based on local observations, 6- to 7-foot waves impact the South Cove harbor breakwater during the worst storms. During such conditions, waves of 4 to 5 feet inside the harbor have been observed. Vessel and dock damages occur from impacts and rubbing action of the rafted vessels during storm events. Rafting of vessels up to 5 deep occurs due to overcrowding at the North Cove harbor and unprotected docks along the north side of Craig Island. Vessel and dock damages similar to that at the South Cove are experienced along the north side docks. Overcrowding also causes delays in departing during critical times to reach the fishing grounds during the limited open seasons.

The lack of a boatlift limits the extent of vessel repairs that can be accomplished at Craig. Private interests are in the preliminary planning stage of construction of a boatlift adjacent to the North Cove harbor. A newly constructed icehouse is located near the existing fuel dock, which is just north of the North Cove harbor.

(2) Expected Future Conditions. A lack of protection will continue to cause float damage, vessel damage, overcrowding, and delays. Without navigation improvements at Craig, the shortage in moorage space and corresponding vessel and float damages and operational inefficiencies will continue. The need for additional moorage has also resulted from growth in the tourism industry. The full growth of sightseeing and charter businesses will not be realized.

(3) Problems and Opportunities. The primary industry in Craig is commercial fishing. Overcrowded conditions cause operational inefficiencies to the commercial fleet operating out of Craig. Also, vessels and floats incur damages during storm events due to extensive rafting and unprotected moorage conditions. Increased protected moorage would alleviate the overcrowded conditions, reduce delays to fishing vessels, and reduce damages to vessels and the float systems, and allow for expansion of sightseeing and charter businesses.

b. Alternative Plans. The selected alternative is located adjacent to the defunct Ward Cove cannery. The alternative would consist of a 960-foot-long floating breakwater and a 4-acre mooring basin. The breakwater would provide protection from the prevailing southwesterly waves. The basin would accommodate 66 vessels ranging from 20 to 90 feet in length.

Expansion of the existing South Cove Harbor was not cost effective due to development of the adjacent uplands, which prohibited landward expansion, and extensive dredging required for seaward expansion. Expansion of the North Cove Harbor was not cost effective due to the development of adjacent uplands and configuration of the existing harbor. The direction of expansion would be seaward (north) and would encroach upon traffic lanes used by vessels and seaplanes.

c. Economic Analysis. Many of the wait-listed vessels are accommodated by rafting at the various docks along the north side of Craig Island. Rafting also occurs but to a lesser extent at the South Cove Harbor. The additional moorage provided by the new harbor would reduce overcrowding, rafting-related damages, and operational inefficiencies of the vessels and harbor. Economic benefits from a small boat harbor at Ward Cove site would come from reducing damages to the existing float system and vessels, reducing time spent on checking vessels moored in the harbor, and eliminating delays of commercial fishing vessels.

Reduced damage to existing float system. The wave conditions inside the harbor are such that the dock system is being damaged from impacts and rubbing action during storm events. During the peak of the seine season, it is necessary to raft vessels eight or ten deep at times in order to accommodate them. Rafting results in strains on float systems beyond what they were designed for and increased maintenance costs. This extensive rafting puts added pressure on the bull railings, which leads to increased wear of the floats and shortens the life expectancy of the facilities. The city incurs additional expenses on repairs of the float system.

Reduced vessel damage. The wave conditions inside the harbor are such that vessels are being damaged from impacts and rubbing action during significant storm events. Due to the lack of adequate protection and rafting due to overcrowding, vessel owners spend extra monies annually to repair minor damages not caused by normal wear and tear.

Reduced harbormaster time. With an inadequately protected harbor, the harbormaster has to spend an additional 2 to 3 weeks of additional time during the winter storm season checking vessels and mooring lines and conducting preventative maintenance.

Reduced delays and operating costs. In an attempt to accommodate all the vessels that call at Craig harbors, the harbormaster “hot berths” vessels in reserved slips and allows rafting. Rafted vessels incur delays in operations and increased operating costs. Frequently “hot-berthed” vessels must be moved by the harbor staff to allow vessels with reserved space to return to the

harbor. This presently constitutes 30% of the harbor staff's time during the summer season and is twice what would normally be required with additional moorage space.

Increased recreational opportunity. Additional protected moorage would allow for an expansion of sightseeing and charter businesses.

Increased moorage space. Many of the 123 wait-listed vessels are accommodated by rafting at the various docks along the north side of Craig Island. Rafting also occurs but to a lesser extent at the South Cove Harbor. Construction of the harbor would accommodate 66 of these vessels, which would reduce overcrowding. Reduction of overcrowding would reduce rafting-related damages and reduce operational inefficiencies of the vessels and harbor. The majority of vessels accommodated would be commercial salmon fishing vessels.

d. Preliminary Evaluation of Alternatives. Annual commercial vessel benefits were based on a historically per-vessel range of \$3,000 to \$7,000. Given that 66 vessels would be accommodated by the harbor, the annual National Economic Development benefits for the selected alternative are expected to range from \$198,000 to \$462,000. Annual recreational opportunity benefit is estimated to be \$50,000 to \$150,000. Total annual NED benefits would range from \$248,000 to \$612,000. The estimated cost of the project is \$8,400,000. Given an interest rate of 5-7/8 percent and a 50-year period of analysis, the annual project cost is estimated to be \$523,000, excluding the annual operation and maintenance cost of \$30,000. Therefore, the total annual project cost is estimated at \$553,000.

6. ENVIRONMENTAL ANALYSIS. The community is on Craig Island, which is connected to Prince of Wales Island by an earthen causeway. Local streams such as Crab, Hatchery, and Halfmile creeks located north of Craig are clear water streams with sizeable populations of Dolly Varden, cutthroat trout, and silver salmon.

The nearshore zone of the study area is densely vegetated with eelgrass. Eelgrass, a marine grass, grows in soft sediments and provides habitat for diverse and abundant marine organisms and waterfowl.

The major terrestrial vegetation type is species that typify the coastal western hemlock forest. The understory of the mature conifer forest is relatively unproductive. The marsh habitat and vegetation along streams support a variety of mammal and avifauna populations. Common species found include Sitka black-tailed deer, black bear, ermine, wolverine, squirrel, porcupine, and wolf. Bird species include greater yellow legs, northern shrike, Oregon junco, Lincoln's sparrow, pine siskin, bald eagle, and Queen Charlotte Canada goose.

Feasibility level studies to examine the proposed harbor expansion would be required to conduct evaluations under the Clean Water Act, National Historic Preservation Act, National Environmental Policy Act, Coastal Zone Management Act, Essential Fish habitat, Endangered Species Act, and Fish and Wildlife Coordination Act.

7. FEDERAL INTEREST. The alternatives considered during this investigation demonstrate that there is Federal interest in a feasibility study of navigation improvements at Craig, Alaska, given the existing and anticipated future conditions. Benefits to the Nation would include

reduced damage costs, increased efficient use of time, decreased delays, increased efficient harbor operations, and increased recreational opportunities.

8. PRELIMINARY FINANCIAL ANALYSIS. As the local sponsor, the City of Craig will be required to provide 50 percent of the cost of the feasibility phase. The local sponsor is also aware of the cost sharing requirements for potential project implementation.

9. SUMMARY OF FEASIBILITY STUDY ASSUMPTIONS. No deviations from ER 1105-2-100 are anticipated.

10. FEASIBILITY PHASE MILESTONES.

Milestone	Description	Duration (mo)	Cumulative (mo)
Milestone F1	Initiate Study	0	0
Milestone F2	Public Workshop/Scoping	9	9
Milestone F3	Feasibility Scoping Meeting	4	12
Milestone F4	Alternative Review Conference	2	14
Milestone F4A	Alternative Formulation Briefing	1	15
Milestone F5	Draft Feasibility Report	5	20
Milestone F6	Final Public Meeting	1	21
Milestone F7	Feasibility Review Conference	1	22
Milestone F8	Final Report to POD	2	24
Milestone F9	DE's Public Notice	2	26
-	Chief's Report	5	31

11. FEASIBILITY PHASE COST ESTIMATE.

WBS#	Description	Cost (\$)
JAA00	Feas - Surveys and Mapping except Real Estate	40,000
JAB00	Feas - Hydrology and Hydraulics Studies/Report (Coastal)	50,000
JAC00	Feas - Geotechnical Studies/Report	55,000
JAE00	Feas - Engineering and Design Analysis Report	40,000
JB000	Feas - Socioeconomic Studies	120,000
JC000	Feas – Real Estate Analysis/Report	30,000
JD000	Feas - Environmental Studies/Report (Except USF&WL)	80,000
JE000	Feas – Fish and Wildlife Coordination Act Report	40,000
JF000	Feas - HTRW Studies/Report	50,000
JG000	Feas - Cultural Resources Studies/Report	10,000
JH000	Feas - Cost Estimates	30,000
JI000	Feas - Public Involvement Documents	10,000
JJ000	Feas – Plan Formulation and Evaluation	90,000
JL000	Feas - Final Report Documentation	30,000
JLD00	Feas - Technical Review Documents	30,000
JM000	Feas - Washington Level Report Approval (Review Support)	50,000
JPA00	Project Management and Budget Documents	40,000
	Subtotal	\$795,000
JPB00	Supervision and Administration (10%)	80,000
JPC00	Contingencies (10%)	80,000
L0000	Project Management Plan (PMP)	30,000
Q0000	PED Cost Sharing Agreement	10,000
	Total	\$995,000

12. RECOMMENDATION. I recommend further study to determine the feasibility of providing navigation improvements for Craig, Alaska. The recommendations contained herein reflect the policies governing formulation of individual projects and the information available at this time. They do not necessarily reflect program and budget priorities inherent in the local and State programs, or the formulation of a national Civil Works water resources program. Consequently, the recommendations may be modified at higher levels within the executive branch before they are used to support the funding. However, prior to initiating the feasibility study, the local sponsor will be advised of any modifications and will be afforded an opportunity to comment further.

13. POTENTIAL ISSUES AFFECTING INITIATION OF FEASIBILITY PHASE. None.

14. VIEWS OF OTHER RESOURCE AGENCIES. Because of the funding and time constraints of the reconnaissance phase, only limited and informal coordination has been conducted with other resource agencies.

15. PROJECT AREA MAP. A map of the project area is enclosed.

Encl

STEVEN T. PERRENOT
Colonel, Corps of Engineers
District Engineer

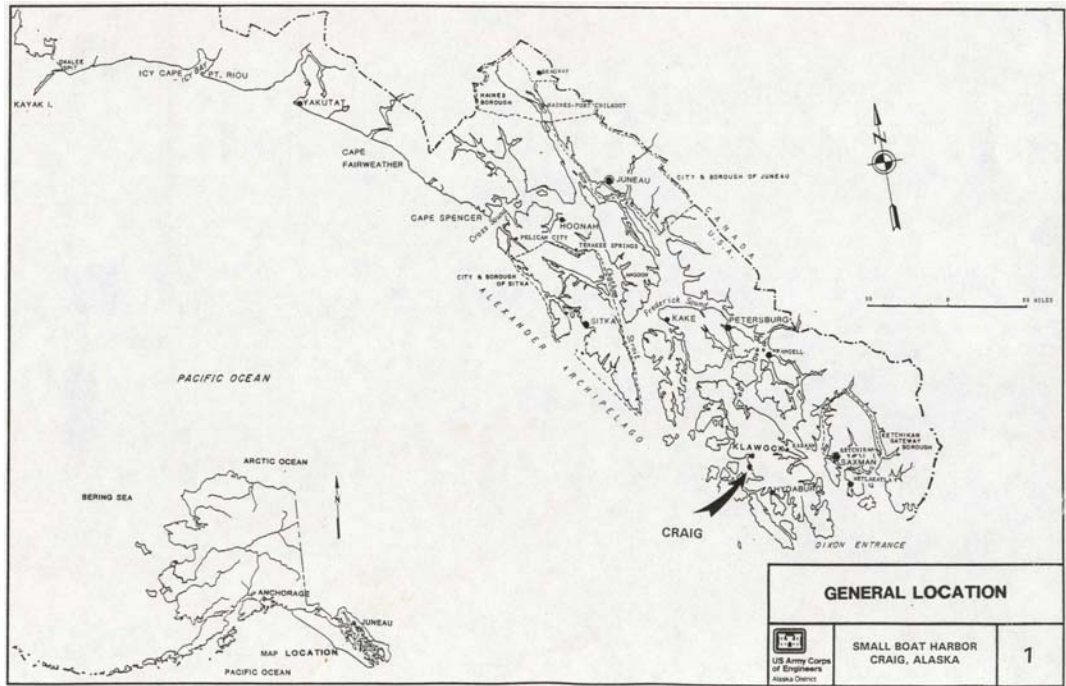


Figure 1

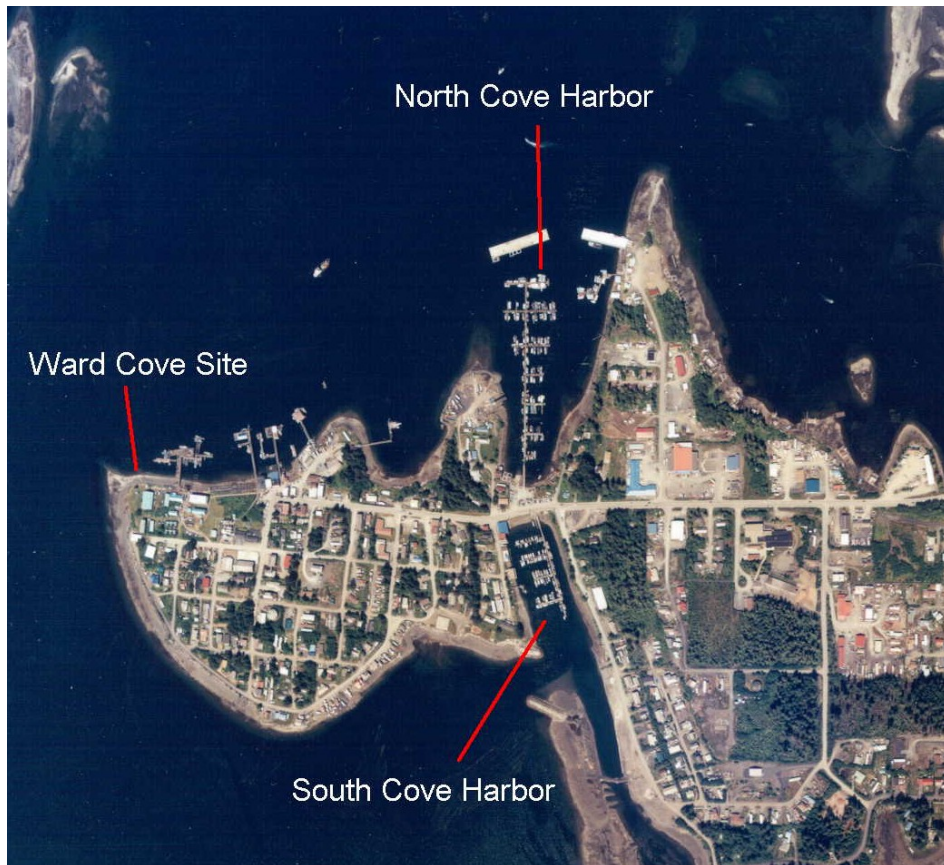


Figure 2