

MEMORANDUM

TO: Council, SSC and AP Members
FROM: Clarence G. Pautzke
Executive Director
DATE: September 16, 1993
SUBJECT: Pribilof Island Trawl Closure

ESTIMATED TIME

1 HOUR

ACTION REQUIRED

Initial review of the revised Pribilof Island trawl closure analysis.

BACKGROUND

Originally part of Amendment 21, this proposal has been reviewed twice by the Council, once at the September 1992 meeting and again in December, 1992. At the December 1992 meeting, the SSC, AP and Council were quite critical of the analysis and requested that staff provide additional analysis for further review. Concerns expressed in the December 1992 review are as follows:

1. the closure areas proposed should relate more to the expressed problem of blue king crab namely, areas should be structured to encompass the important habitat of the blue king crab and marine mammals;
2. the document should have the cost-benefit analysis relate to just the affected closed areas and not the entire Bering Sea;
3. include more information on seabirds and marine mammals;
4. catch data as well as survey data should be used in establishing closure area boundaries;
5. the effect of fisheries other than trawling on blue king crab;
6. data on pollock size from the proposed closure area versus outside it;
7. include information on habitat studies on juvenile blue king crab (early life history)

The original October 29, 1992 draft of the analysis (Amendment 21a) contained seven alternatives, which are as follows:

Alternative 1: Status quo -no area closures adjacent to the Pribilof Islands.

Alternative 2: Close IPHC Area 4C to bottom trawling.

Alternative 3: Close IPHC Area 4C to all trawling.

Alternative 4: Close waters within a 25-mile zone around the islands to bottom trawling.

Alternative 5: Close waters within a 25-mile zone around the islands to all trawling.

Alternative 6: Close waters within IPHC Area 4C West of 169 W. to bottom trawling.

Alternative 7: Close waters within IPHC Area 4C West of 169 W. to all trawling.

The draft Amendment 21a Revised is now complete and will be provided to you at this meeting. This document does not contain analysis on Alternatives 2 through 7 from the October 29, 1992 draft, as this is available in the previous draft document. The revised analysis consists of two alternatives, the status quo (Alternative 1) and a new alternative (Alternative 8). Alternative 8 addresses the Council's primary concern expressed in their December 1992 review. It is a trawl closure area surrounding the Pribilof Islands defined by blue king crab habitat, rather than an existing management area. Attached as Item D-2(c)(1) is the Executive Summary of the analysis.

The Council can review the draft analysis at the September meeting, receive public comments, and decide to release it for public review prior to final action at the December 1993 meeting. In addition, if the Council requests, staff can combine the analysis from the October 29, 1992 draft of Amendment 21a with the new analysis of Revised Amendment 21a, if the Council's intent is to continue to consider closure areas defined by existing management areas (Alternatives 2 - 7) prior to sending the revised document out for public review.

EXECUTIVE SUMMARY**Amendment 21a - Revised****Background**

A prior version of Amendment 21a was released for public review on October 29, 1992 and contained 7 alternatives for closures to trawling in areas surrounding the Pribilof Islands. These alternatives can be referred to in the previous version of the amendment. The current revised Amendment 21a contains the analysis for an eighth alternative in addition to the status quo alternative. This eighth alternative examines a closure boundary which is not based on preexisting regulatory areas, nor a predefined distance from land.

The major focus of the revised analysis (Amendment 21a Revised) is to define an area for closure to bottom trawling which was based on blue king crab habitat and distribution. In the Bering Sea, unique populations of blue king crab are located at the Pribilof Islands, St. Matthew Island and St. Lawrence Island. The waters directly surrounding the Pribilof Islands provide critical habitat for juvenile blue king crab.

Historic blue king crab encounters in NMFS annual trawl surveys, bycatch in observed vessels and directed catch of blue king crab were examined to determine a boundary for trawl closure which would protect blue king crab in the Pribilof Islands area.

The boundary was selected to allow trawl access to the edge of the 50 m contour and the groundfish resources to the east and north of the Pribilof Islands. The boundary was also drawn with straight edges and as few corners as possible in order to facilitate ease of closure enforcement. Analysis has shown little or no impact on pollock or Pacific cod fisheries and a small impact on flatfish fisheries.

Purpose of the Proposed Action

The stated purpose of the proposed action is to eliminate bottom trawl activities in areas of importance to blue king crab and Korean hair crab stocks so that these stocks may build to exploitable levels, and seabird and marine mammal populations may increase to levels sustainable by a habitat undisturbed by bottom trawl activities. In addition, the proposal contends that elimination of bottom trawl activities in IPHC Area 4C or a similar area will reduce bycatch of juvenile halibut and crab. Bottom trawling is alleged to be destructive to the habitat of these animals including their prey species, as well as to the animals themselves including their juvenile stages.

Alternatives Considered

Revised Amendment 21a (September 1993) includes analysis of the following alternatives:

Alternative 1: Status quo -no area closures adjacent to the Pribilof Islands.

Alternative 8: Close an area defined by crab habitat.

The original October 29, 1992 draft of the analysis (Amendment 21a) contained seven alternatives, which are as follows:

Alternative 1: Status quo -no area closures adjacent to the Pribilof Islands.

Alternative 2: Close IPHC Area 4C to bottom trawling.

Alternative 3: Close IPHC Area 4C to all trawling.

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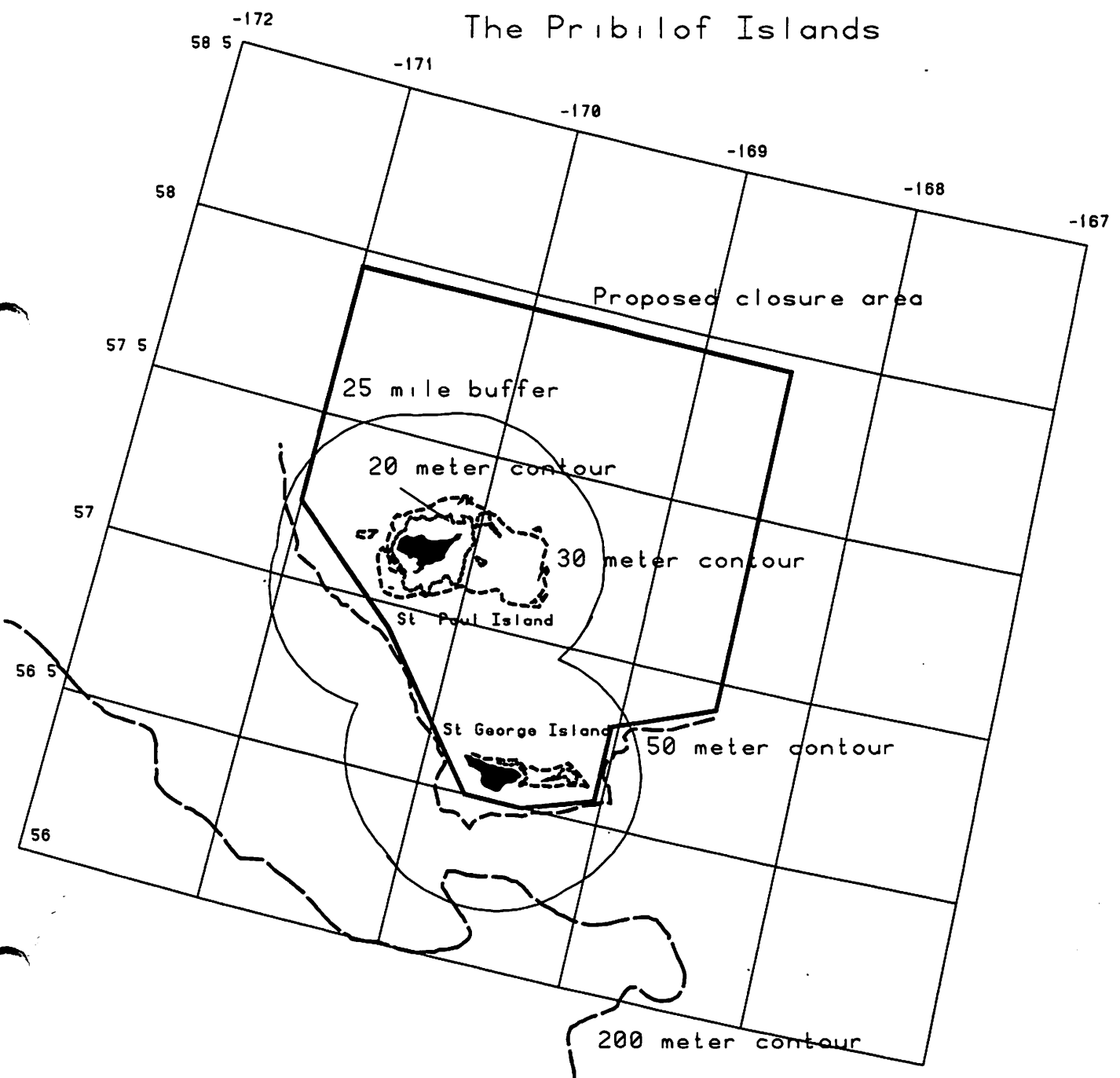
Summary of Analysis

Through spatial display of NMFS annual trawl surveys; foreign, joint venture, and domestic observer data; and the directed commercial crab catch, the analysis provides an understanding of blue king crab habitat, trawl fishing effort and the distribution or feeding areas of other marine species. Analysis of this information was used to delineate an area for closures that provides trawl access to the majority of groundfish resources in the Pribilof Islands area, yet affords habitat protection for blue king crab. The boundary selected does not encompass the entire range of blue king crab in the area, but does surround the habitat with highest blue king crab concentrations. Included in the boundary is habitat vital to juvenile blue king crab, populations of red king crab, populations of Korean hair crab, and some of the area important to foraging sea birds.

The boundary was selected to allow trawl access to the edge of the 50 m contour and the groundfish resources to the east and north of the Pribilof Islands. The boundary was also drawn with straight edges and as few corners as possible in order to facilitate ease of closure enforcement. Analysis has shown little or no impact on pollock or Pacific cod fisheries and a small impact on flatfish fisheries.

The overall impact on groundfish fisheries of Alternative 8 is expected to be small in relation to Alternative 1, status quo. The impact on king crab stocks, Korean hair crab stocks, and sea bird foraging under Alternative 8 is expected to be beneficial and contain no negative impacts when compared with Alternative 1.

The Pribilof Islands



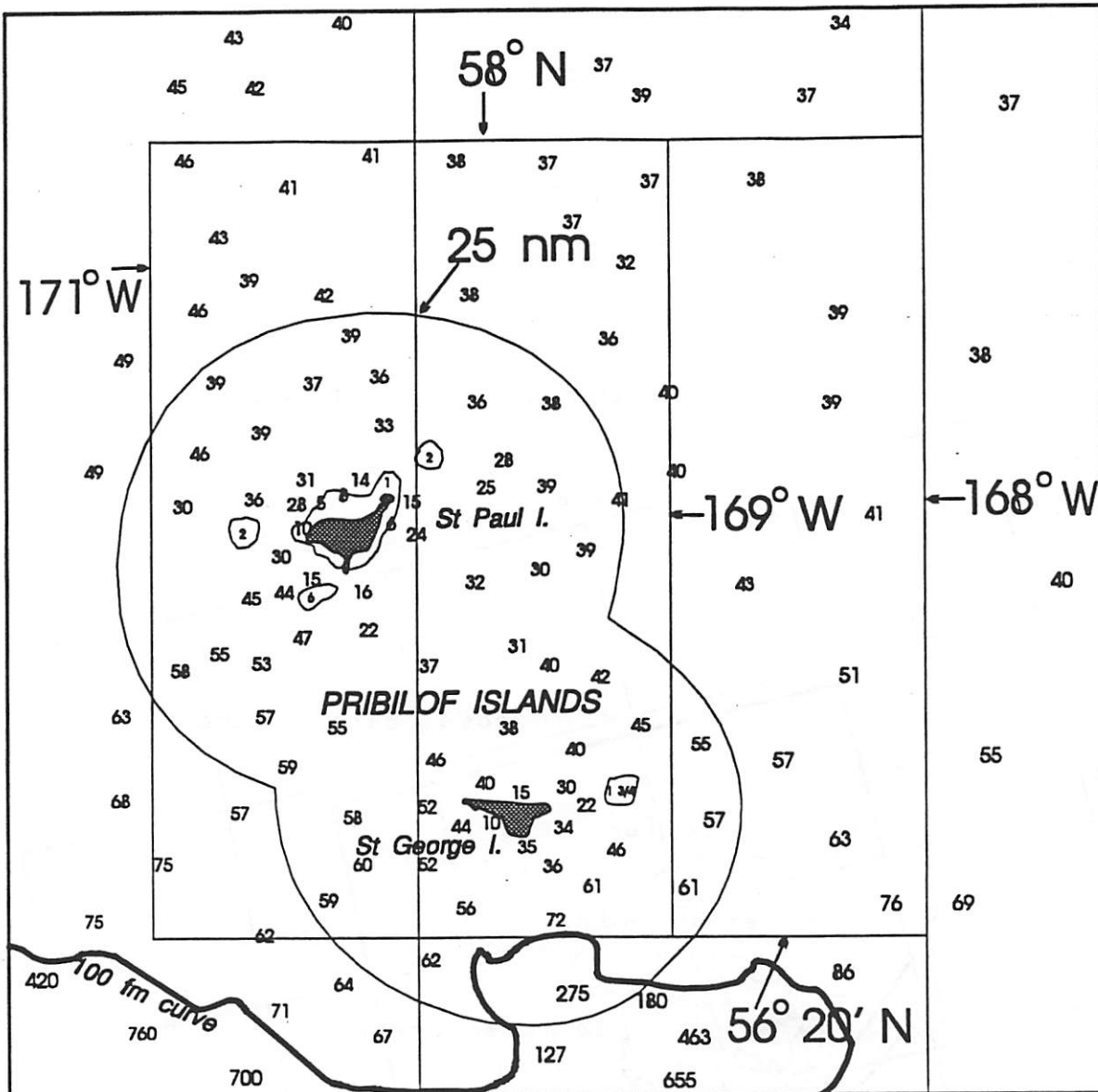


Figure 2.1. Depth soundings (in fathoms) and 100 fathom contour of proposed trawl closure alternatives around the Pribilof Islands. Alternative closure areas include IPHC Area 4C bounded by 56°20'N, 58°N, 168°W and 171°W; IPHC Area 4C west of 169°W; and the area out to 25 NM around the islands.

**Amendment 21a - Revised
Pribilof Island Area Trawl Closure**

**Draft EA/RIR
Initial Regulatory Flexibility Analysis**

Staff of

**Alaska Department of Fish and Game
National Marine Fisheries Service
North Pacific Fisheries Management Council**

September, 1993

Alternatives

Alternative 1. Status Quo.

Alternative 2. Close IPHC Area 4c - bottom trawl.

Alternative 3. Close IPHC Area 4c - all trawl.

**Alternative 4. Close 25 nm buffer around Pribilofs
- bottom trawl.**

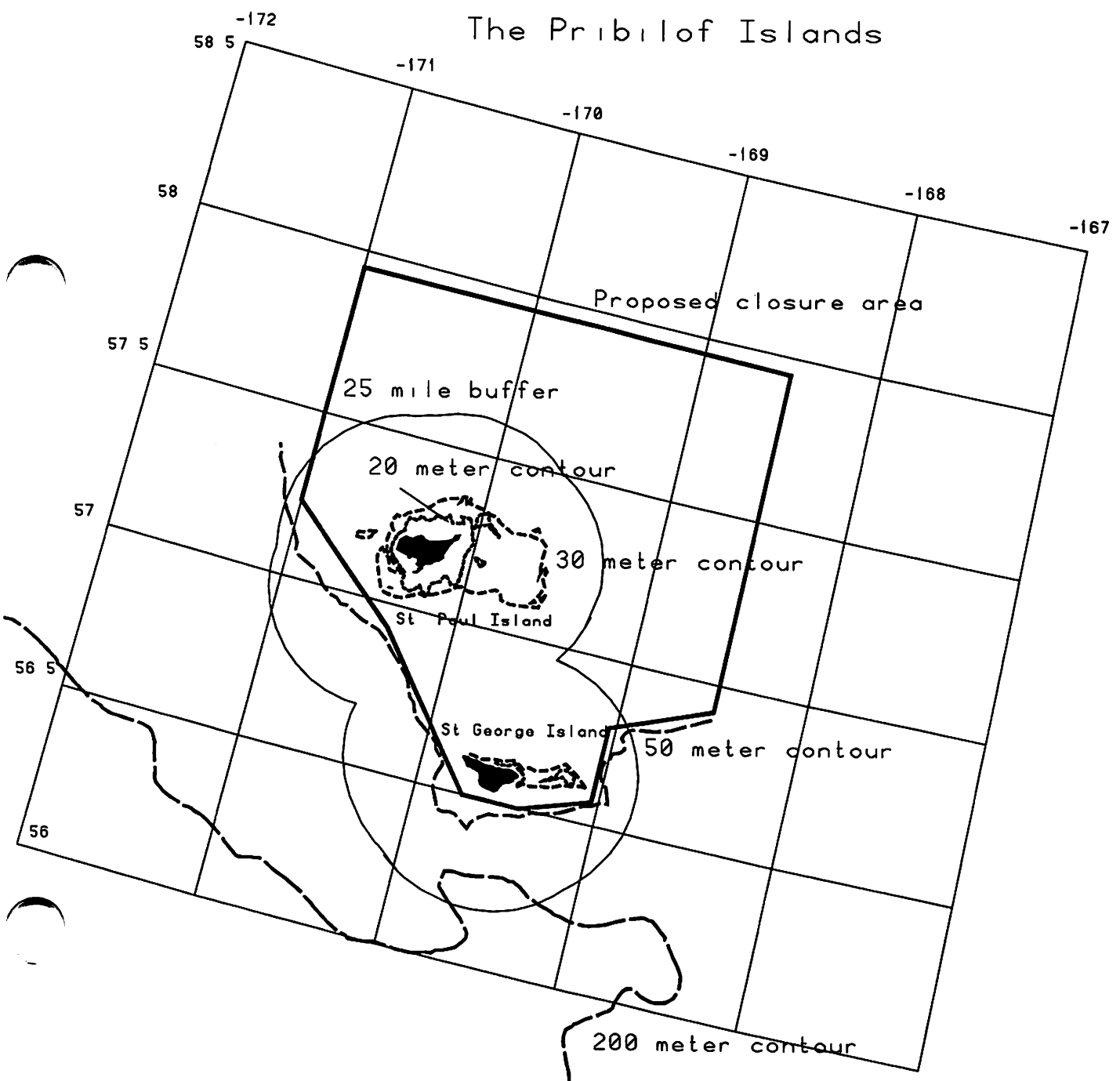
**Alternative 5. Close 25 nm buffer around Pribilofs
- all trawl.**

**Alternative 6. Close IPHC Area 4c west of 169 W
- bottom trawl.**

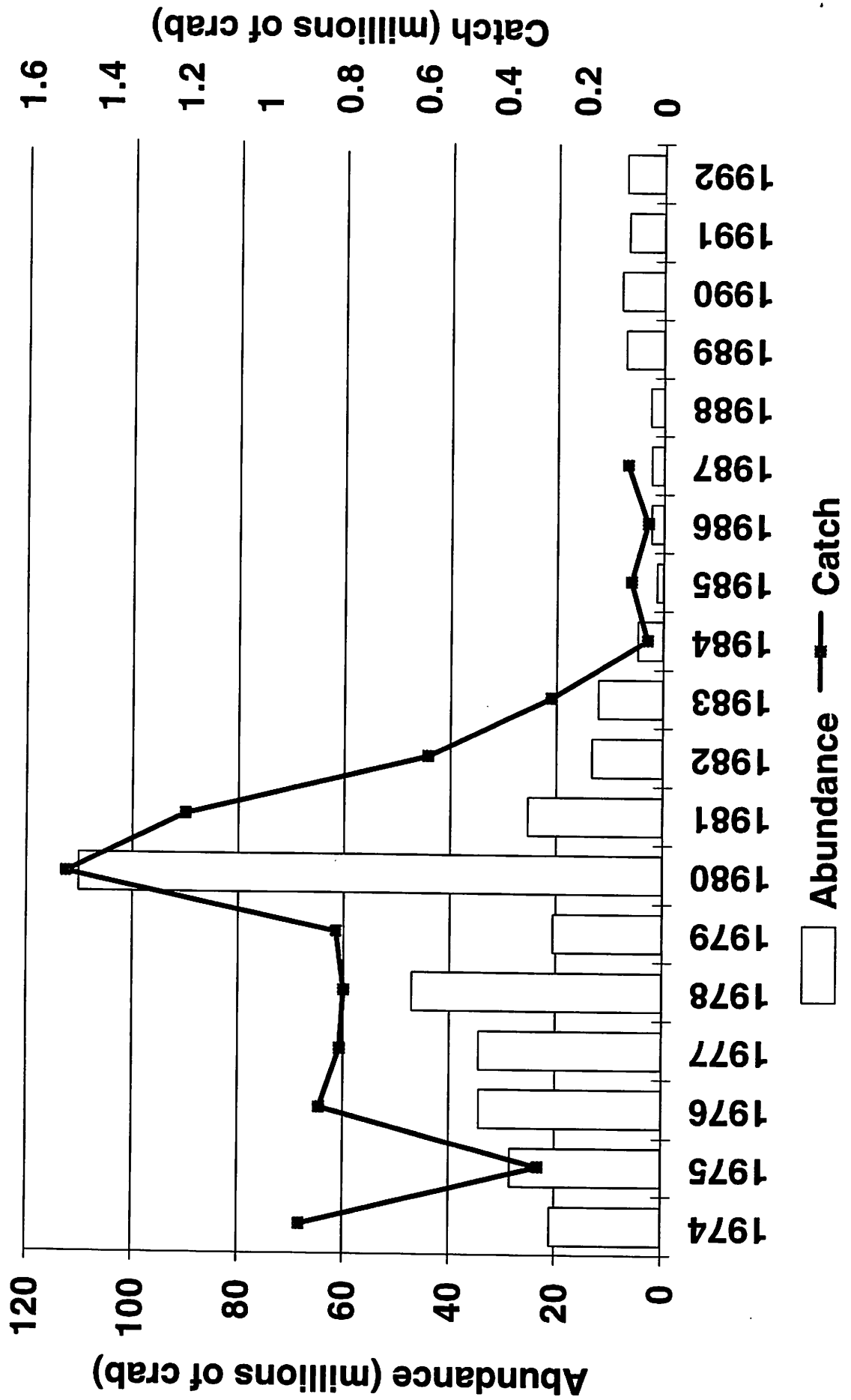
**Alternative 7. Close IPHC Area 4c west of 169 W
- all trawl.**

Alternative 8. Close area defined by crab habitat.

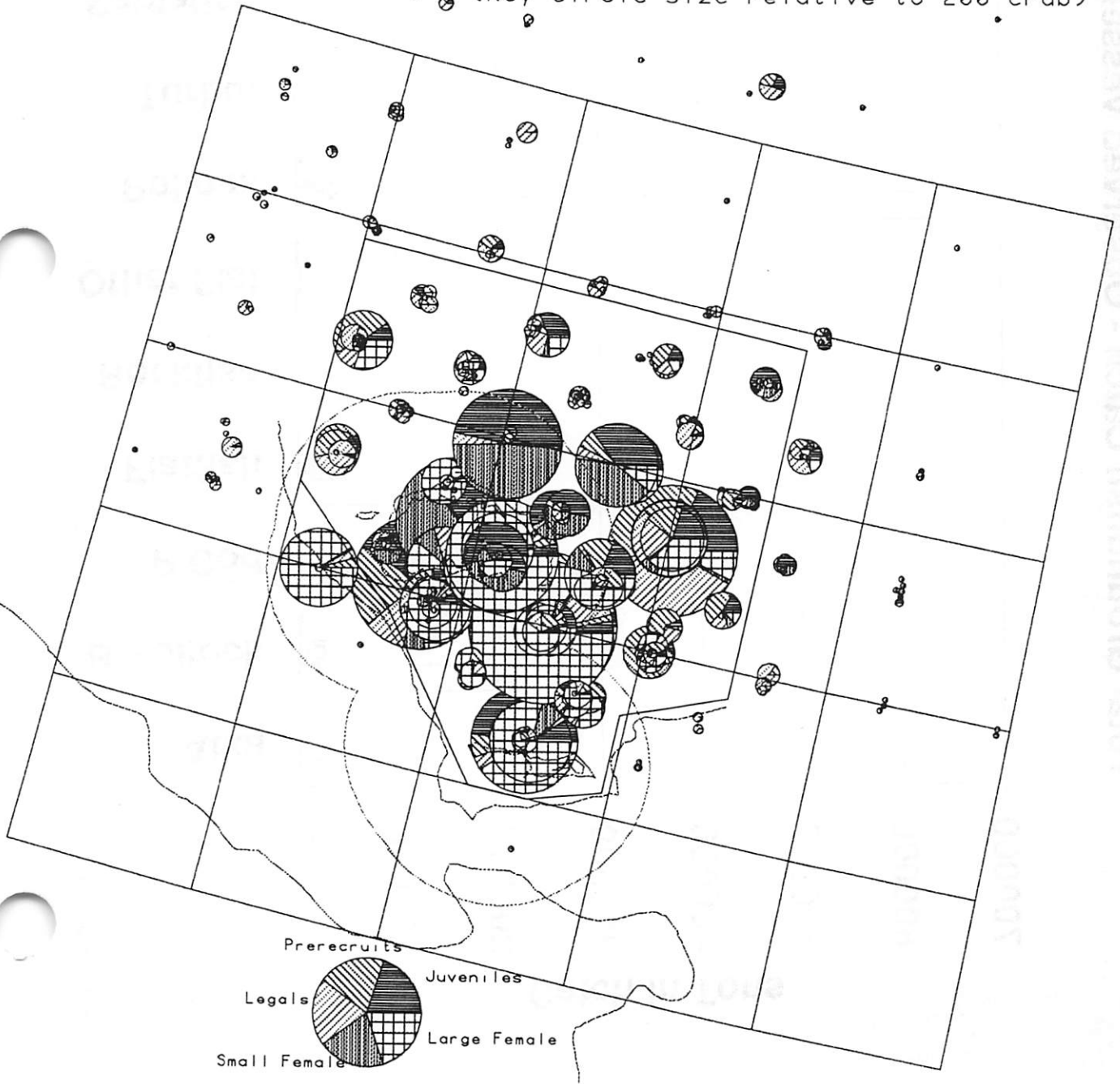
The Pribilof Islands



Historic estimated abundance and estimated catch of blue king crab in the Pribilof District.

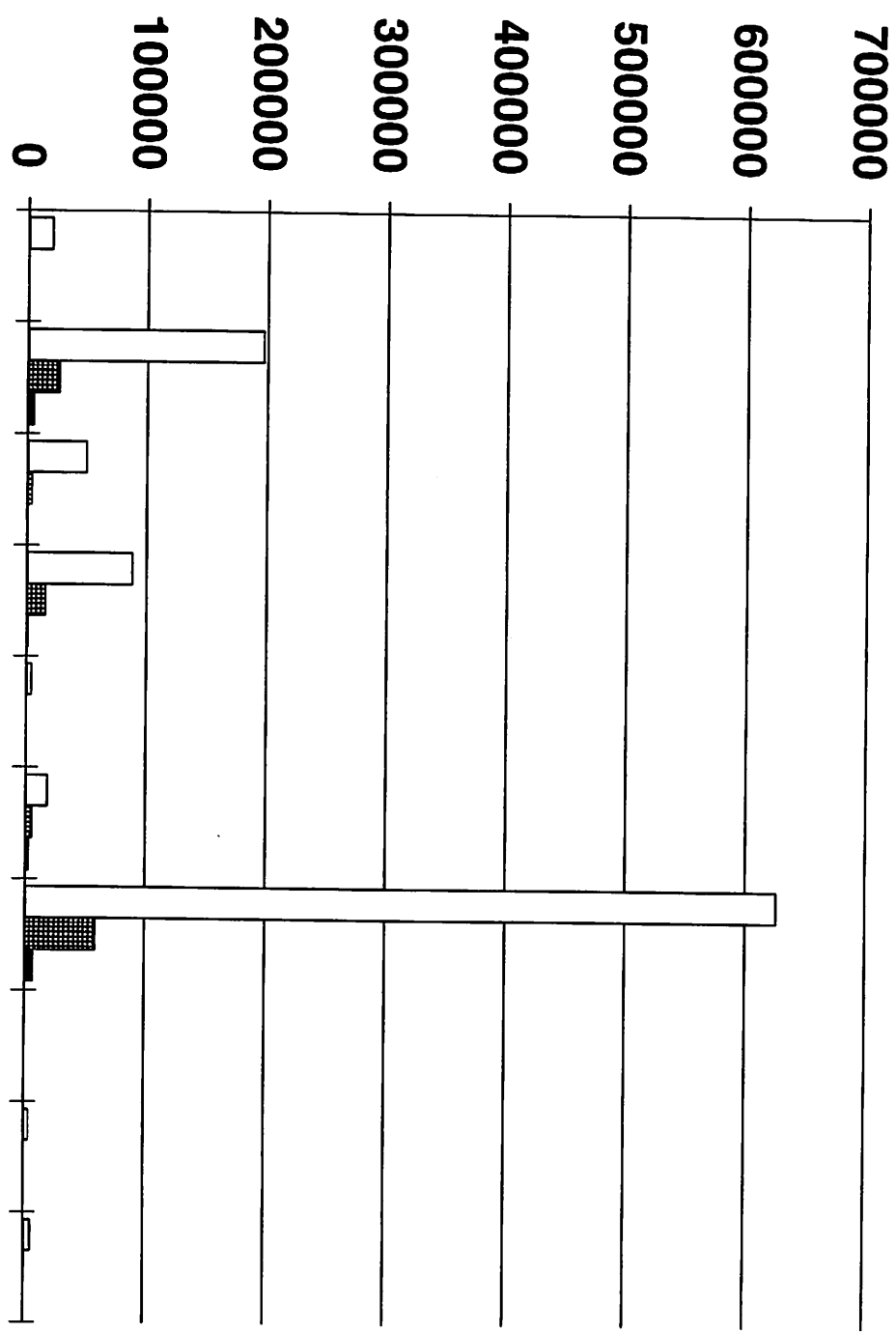


Blue King crab - NMFS Survey - all years
(Key circle size relative to 200 crab)



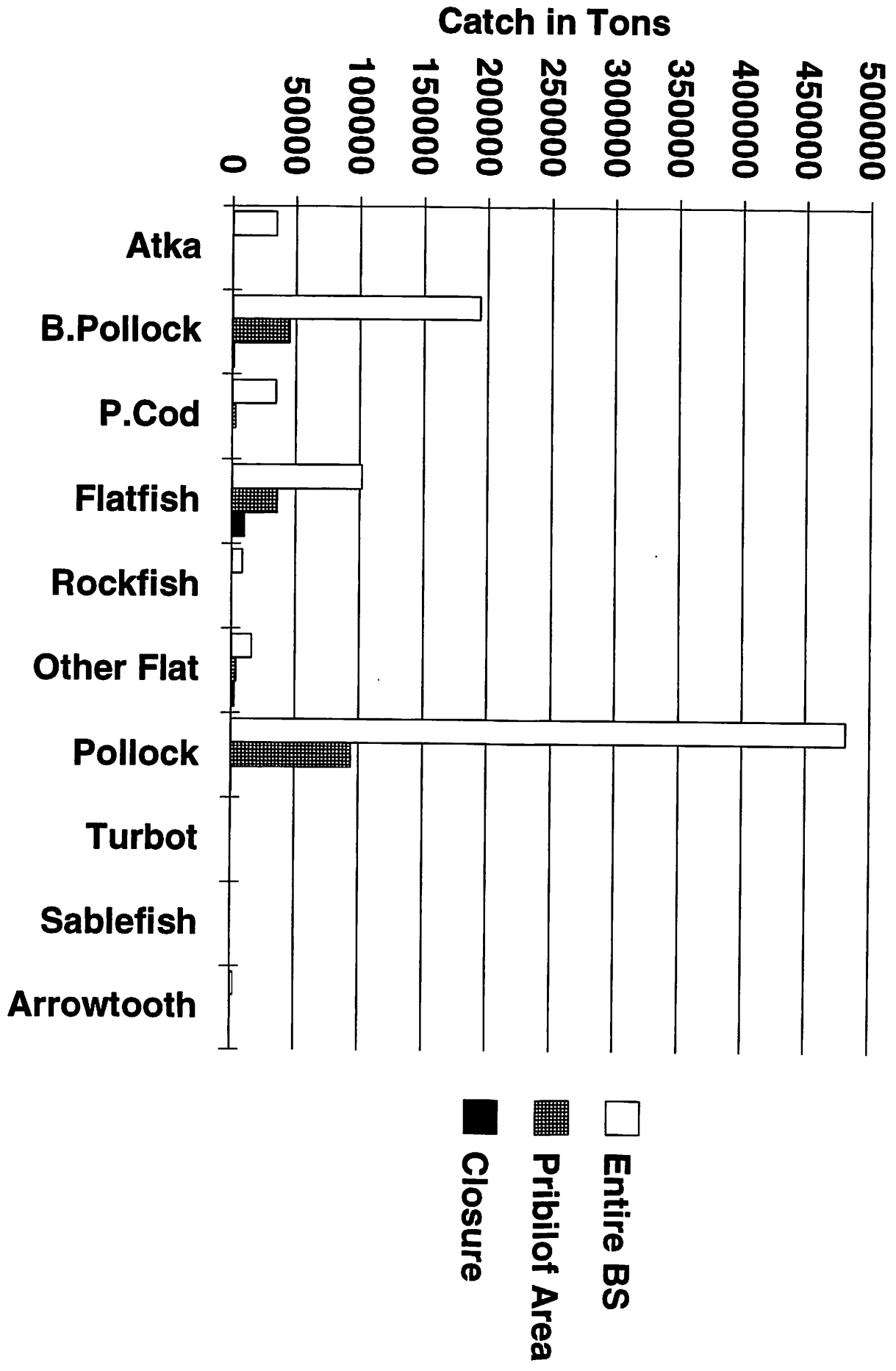
Total Groundfish Catch - Observed Vessels - 1991

Catch in Tons

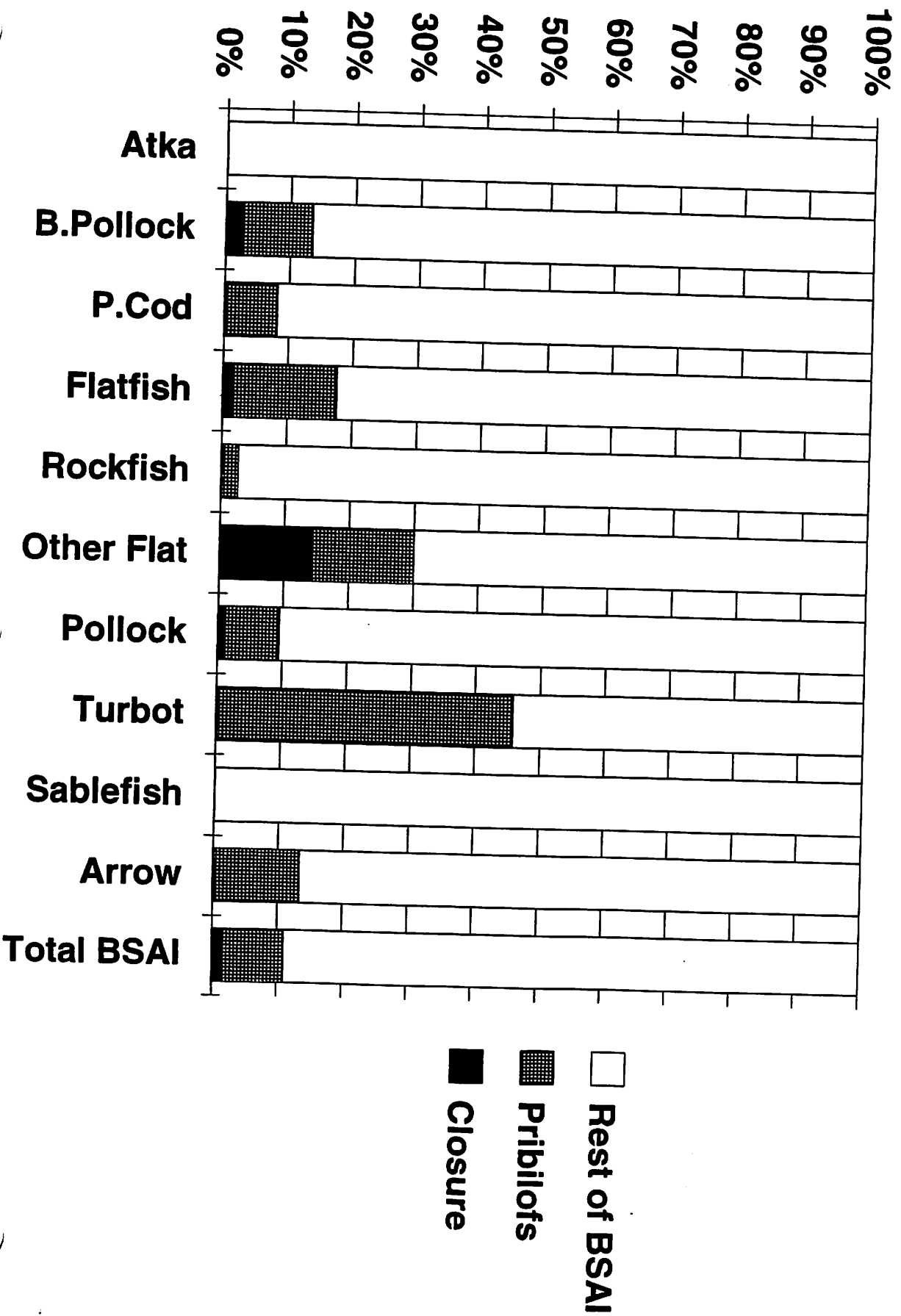


Entire BS
 Pribilof Area
 Closure

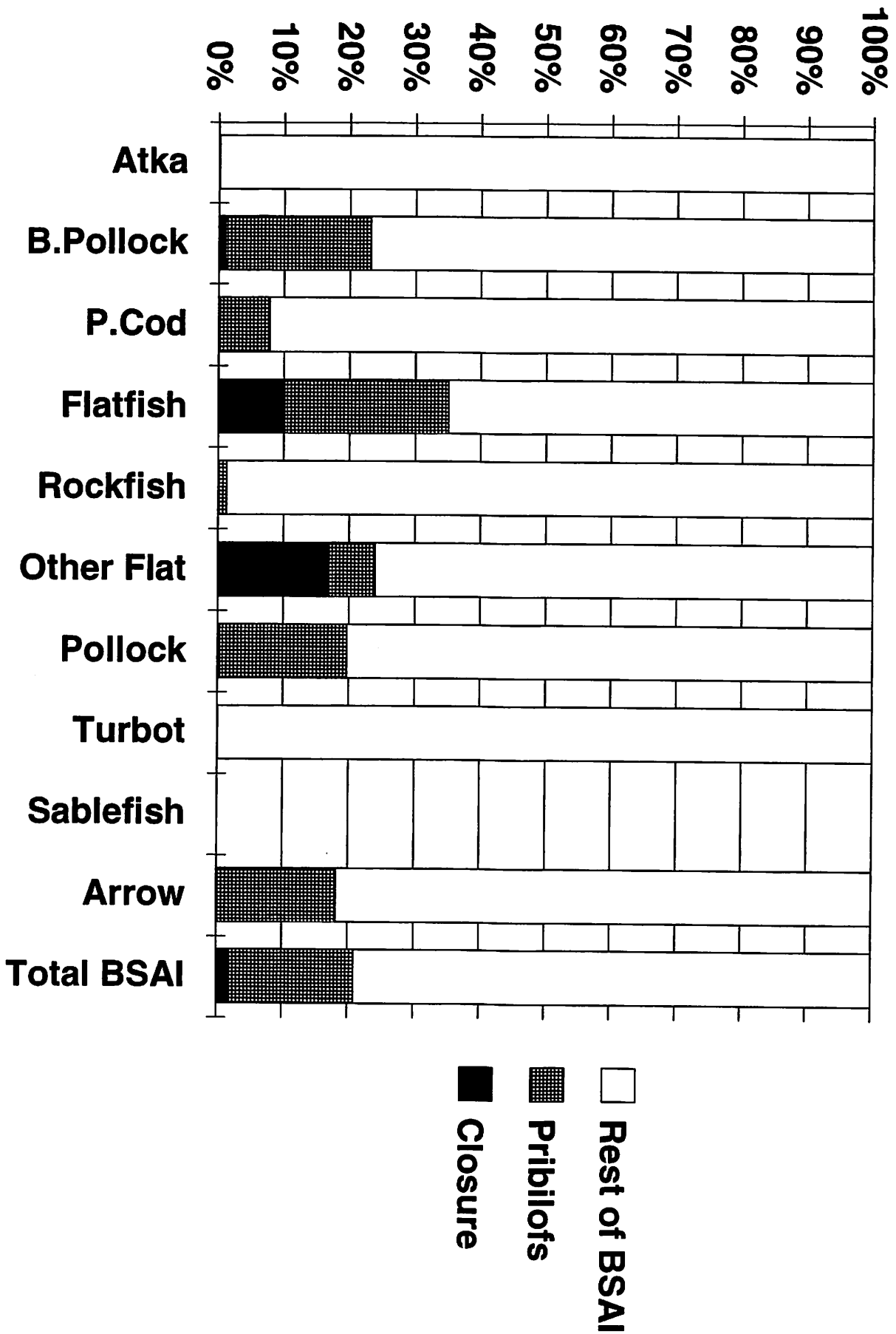
Total Groundfish Catch - Observed Vessels - 1992



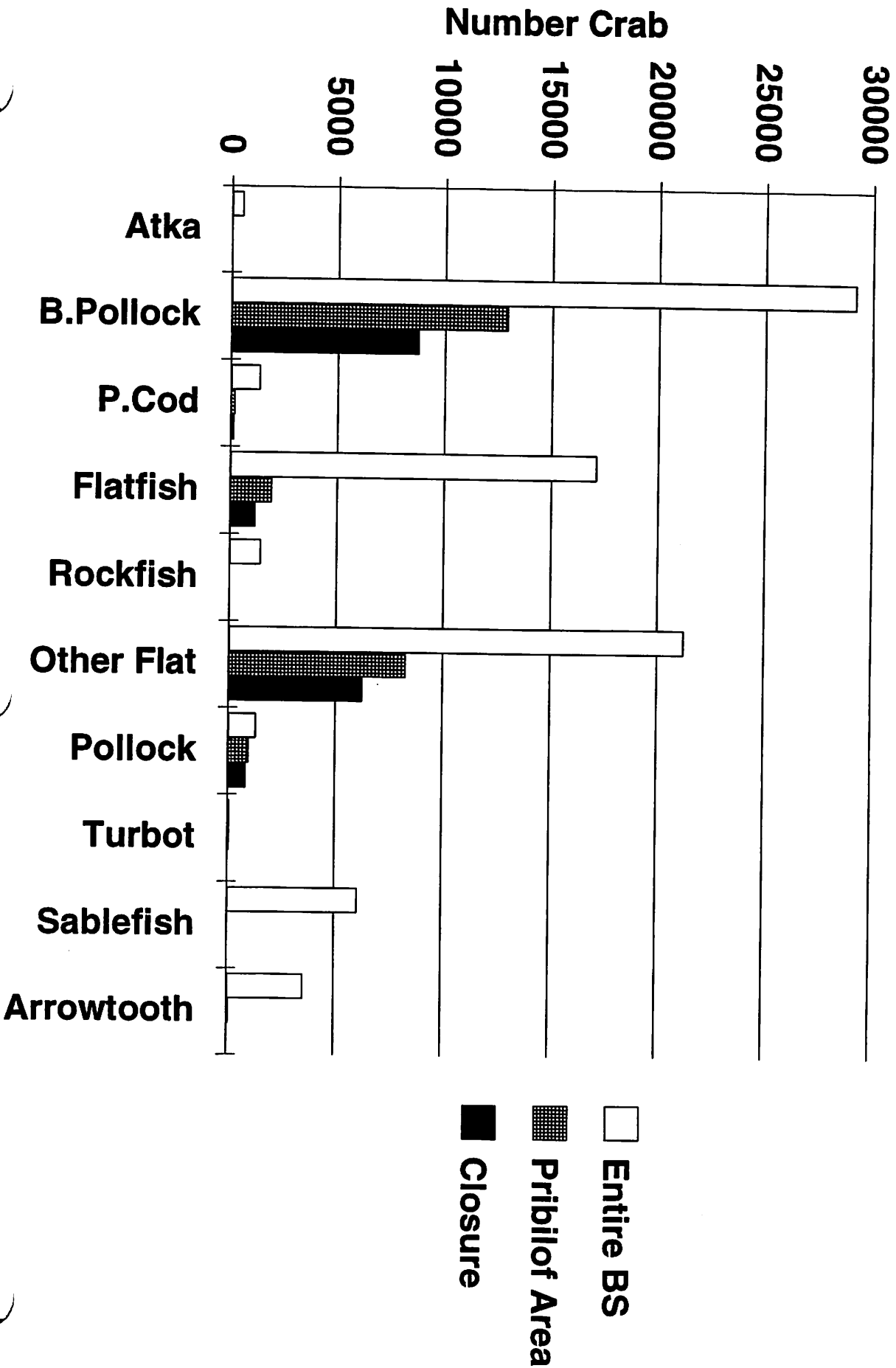
Percentage of Groundfish Catch within Specific Areas - 1991



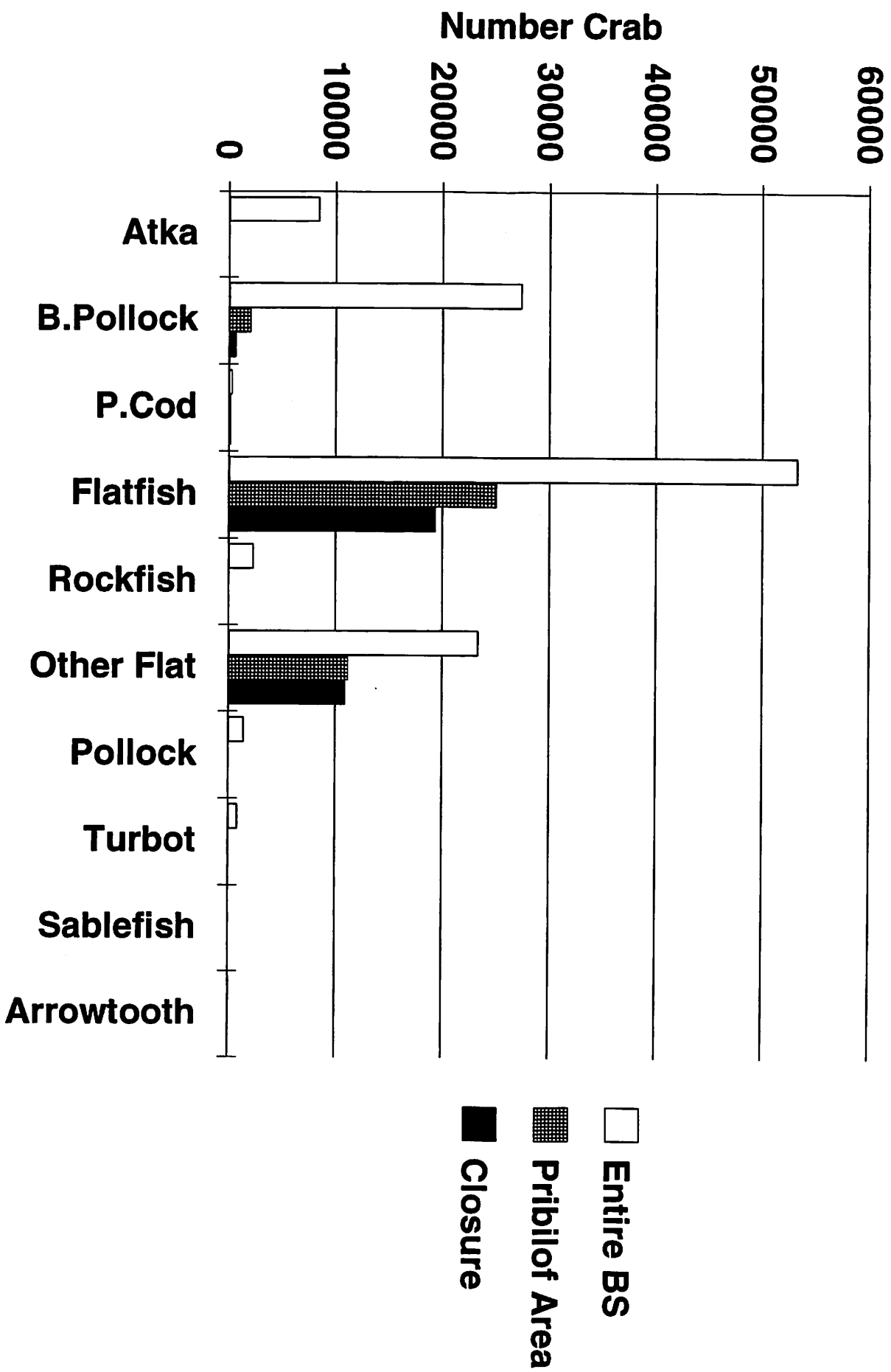
Percentage of Groundfish Catch within Specific Areas - 1992



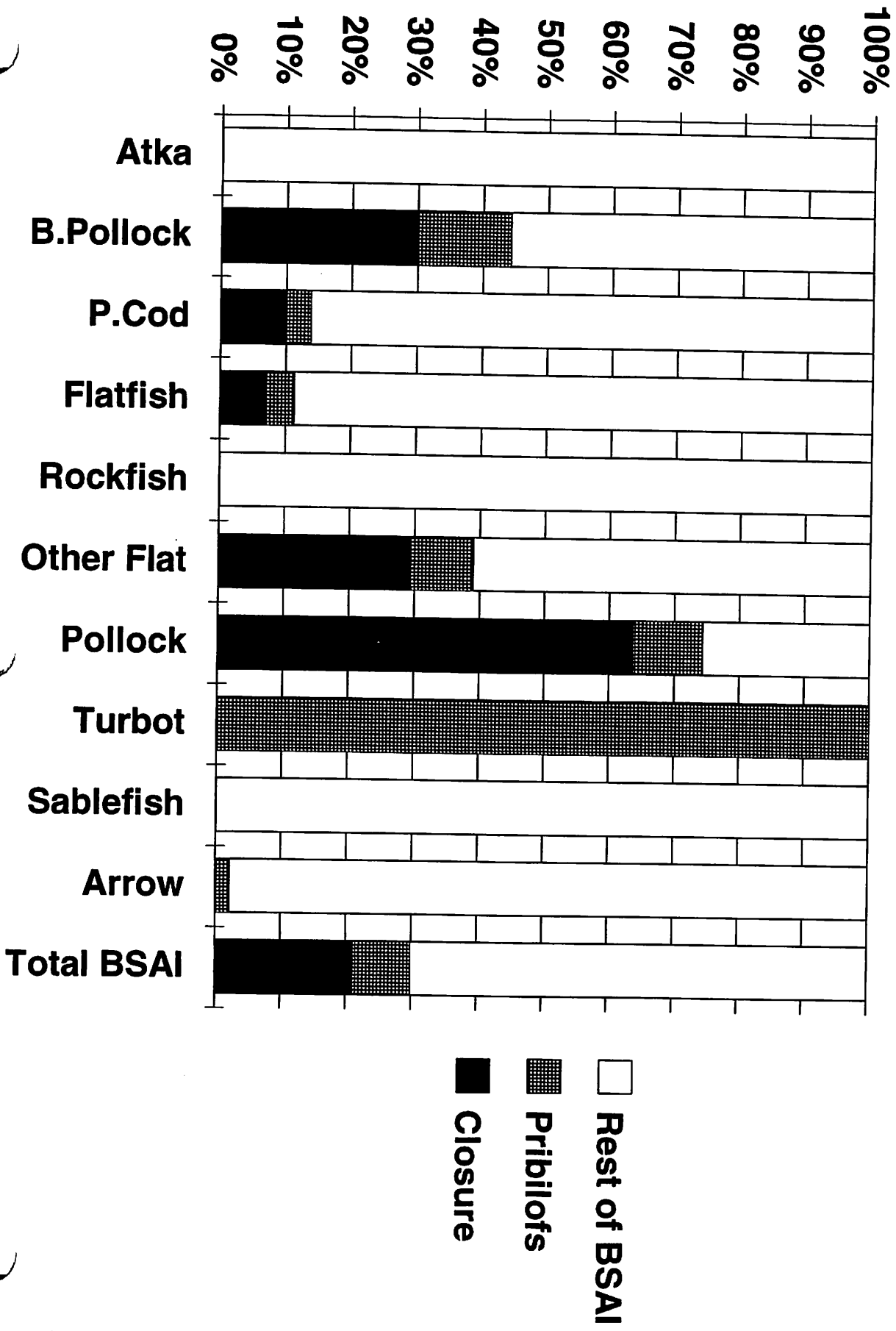
Total King Crab Bycatch - Observed Vessels - 1991



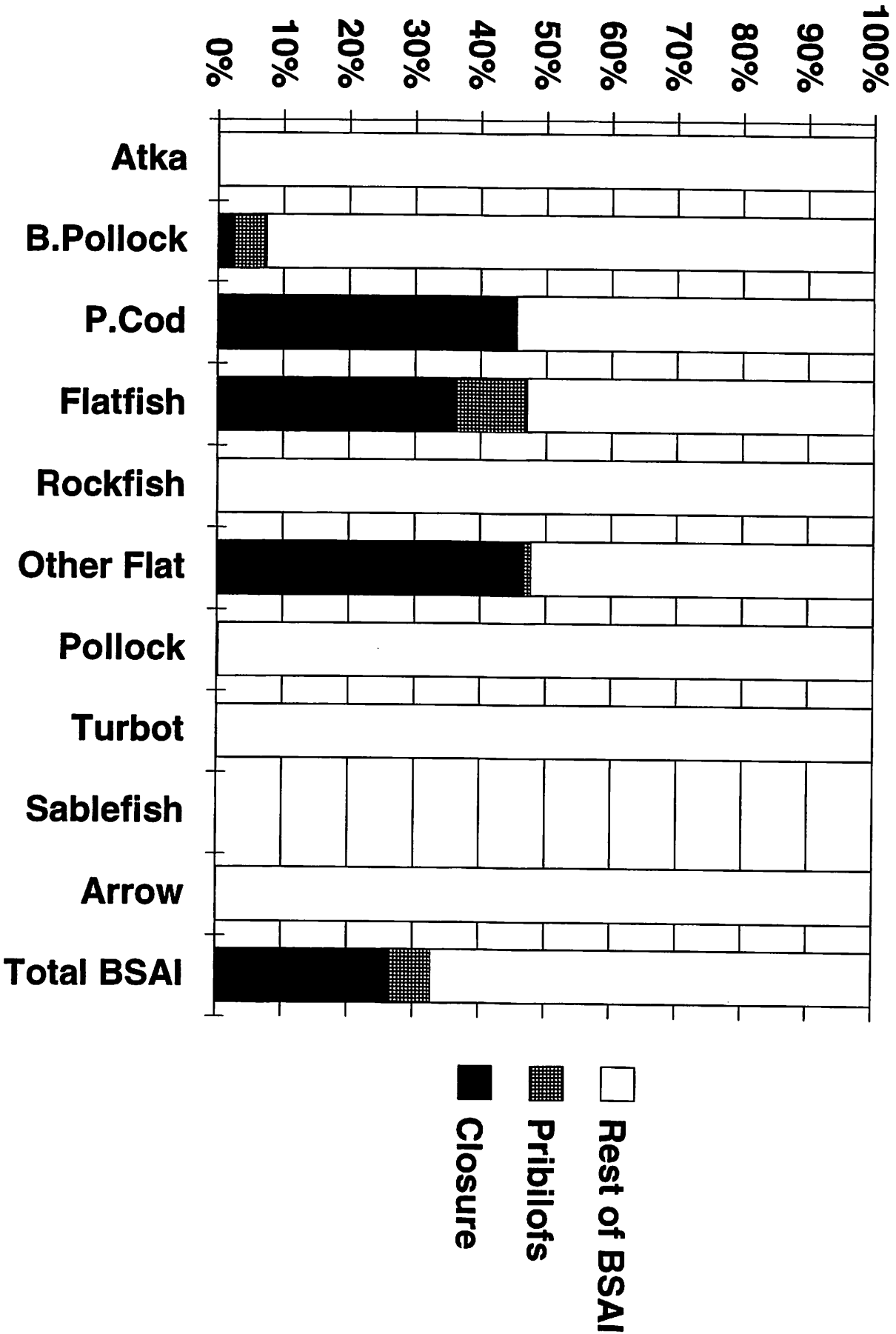
Total King Crab Bycatch - Observed Vessels - 1992



Percentage of King Crab Bycatch within Specific Areas - 1991



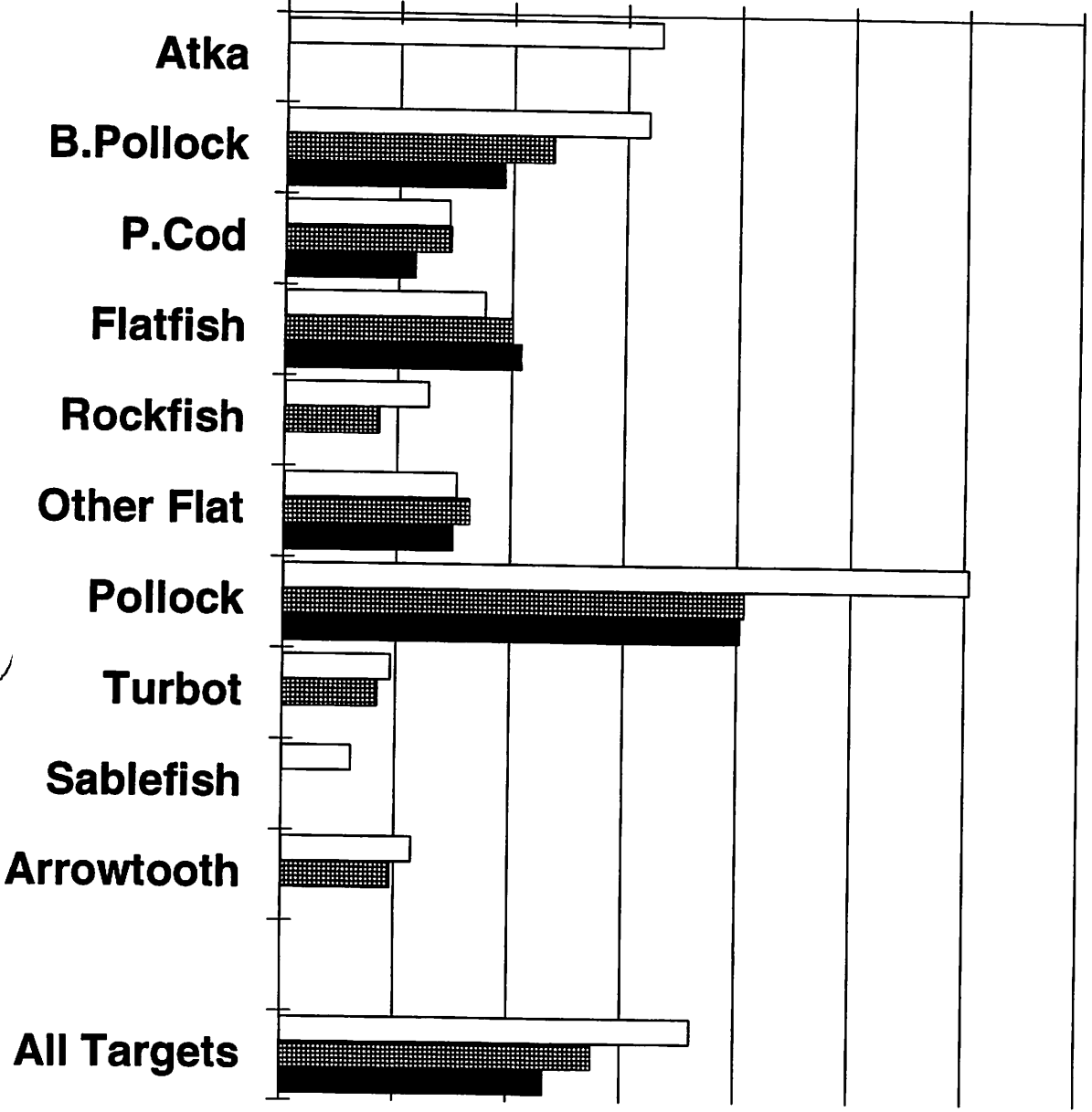
Percentage of King Crab Bycatch within Specific Areas - 1992



Mean Groundfish Catch per Tow - 1991

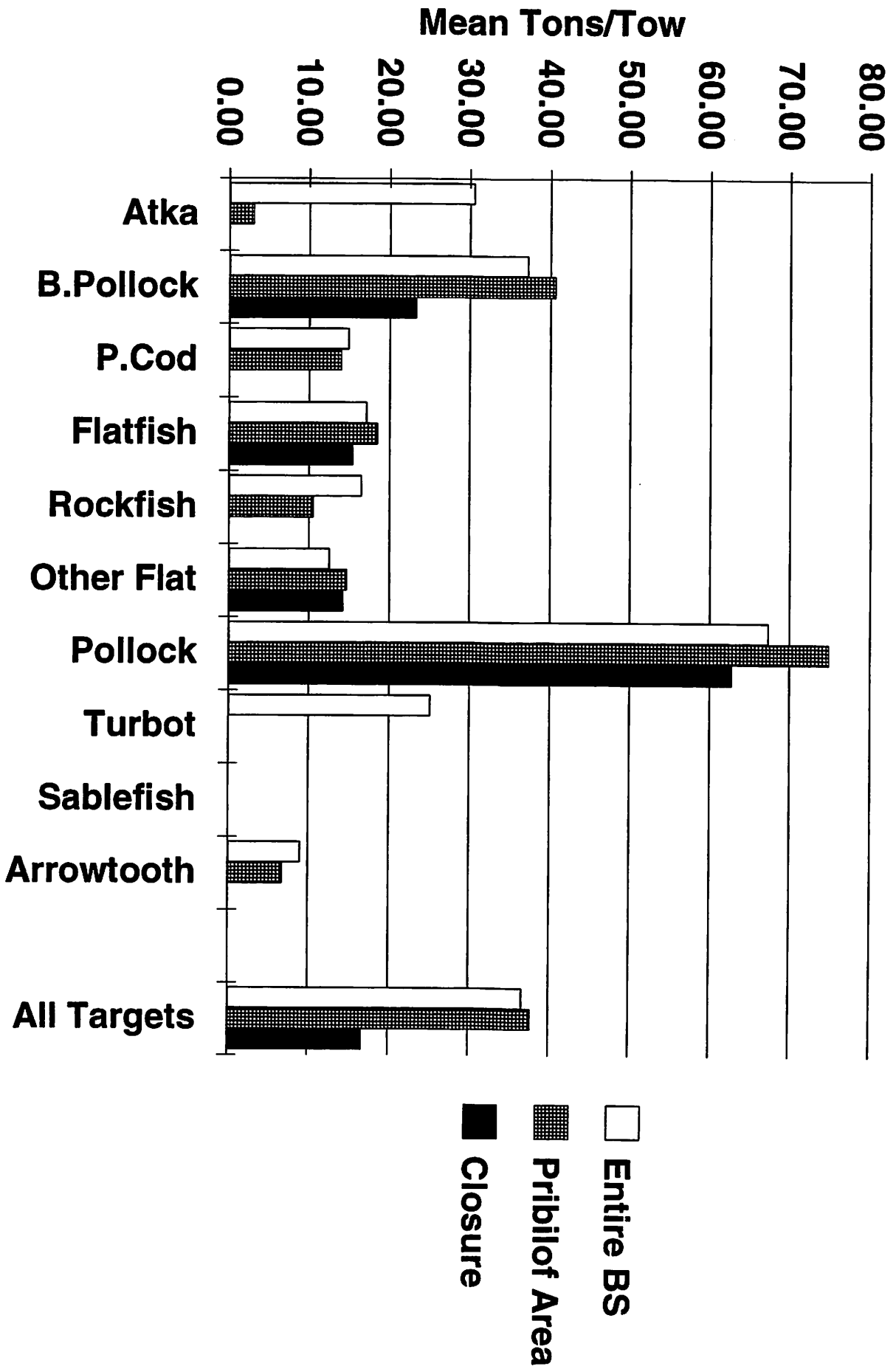
Mean Tons/Tow

70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00

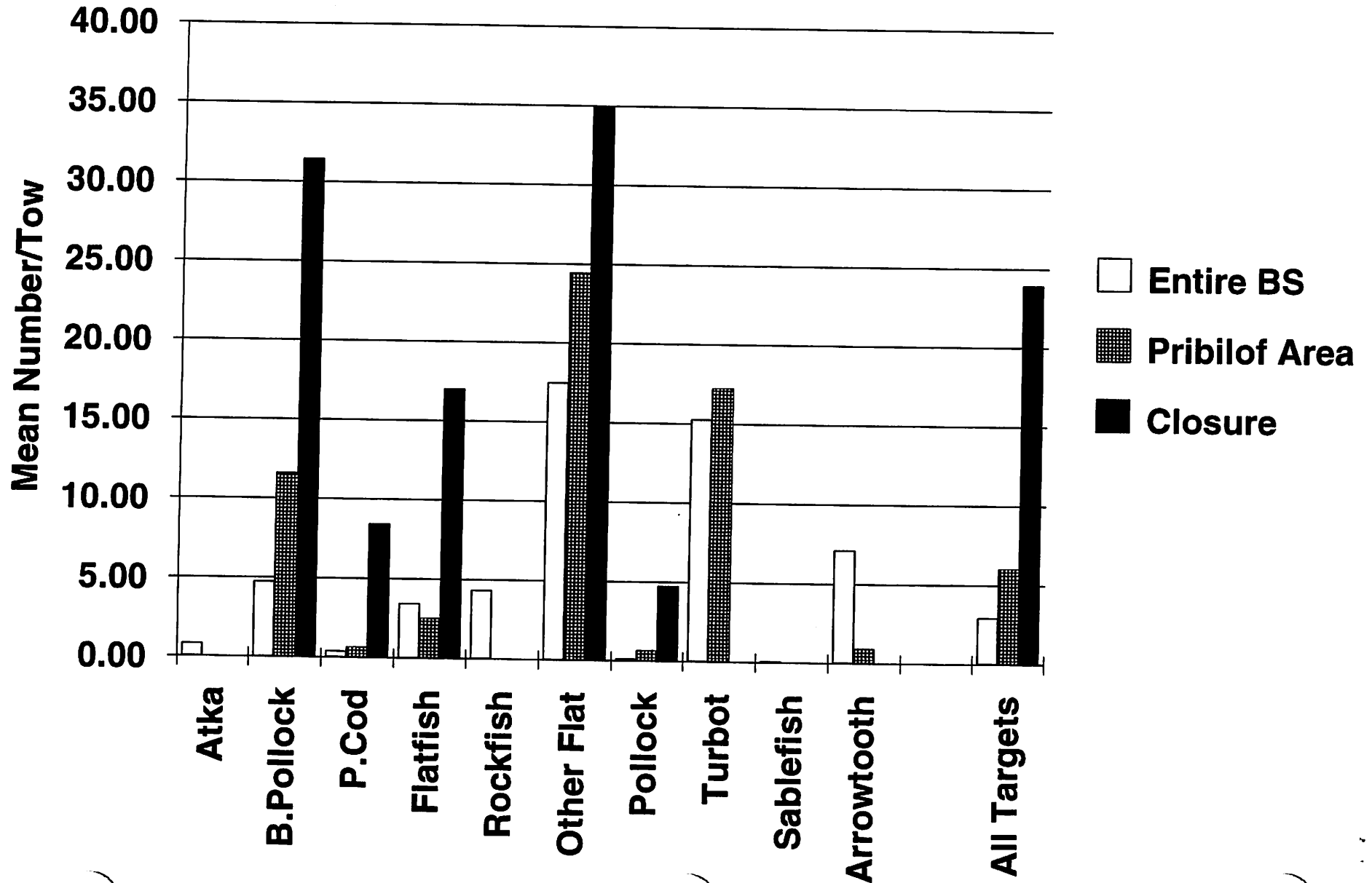


Entire BS
Pribilof Area
Closure

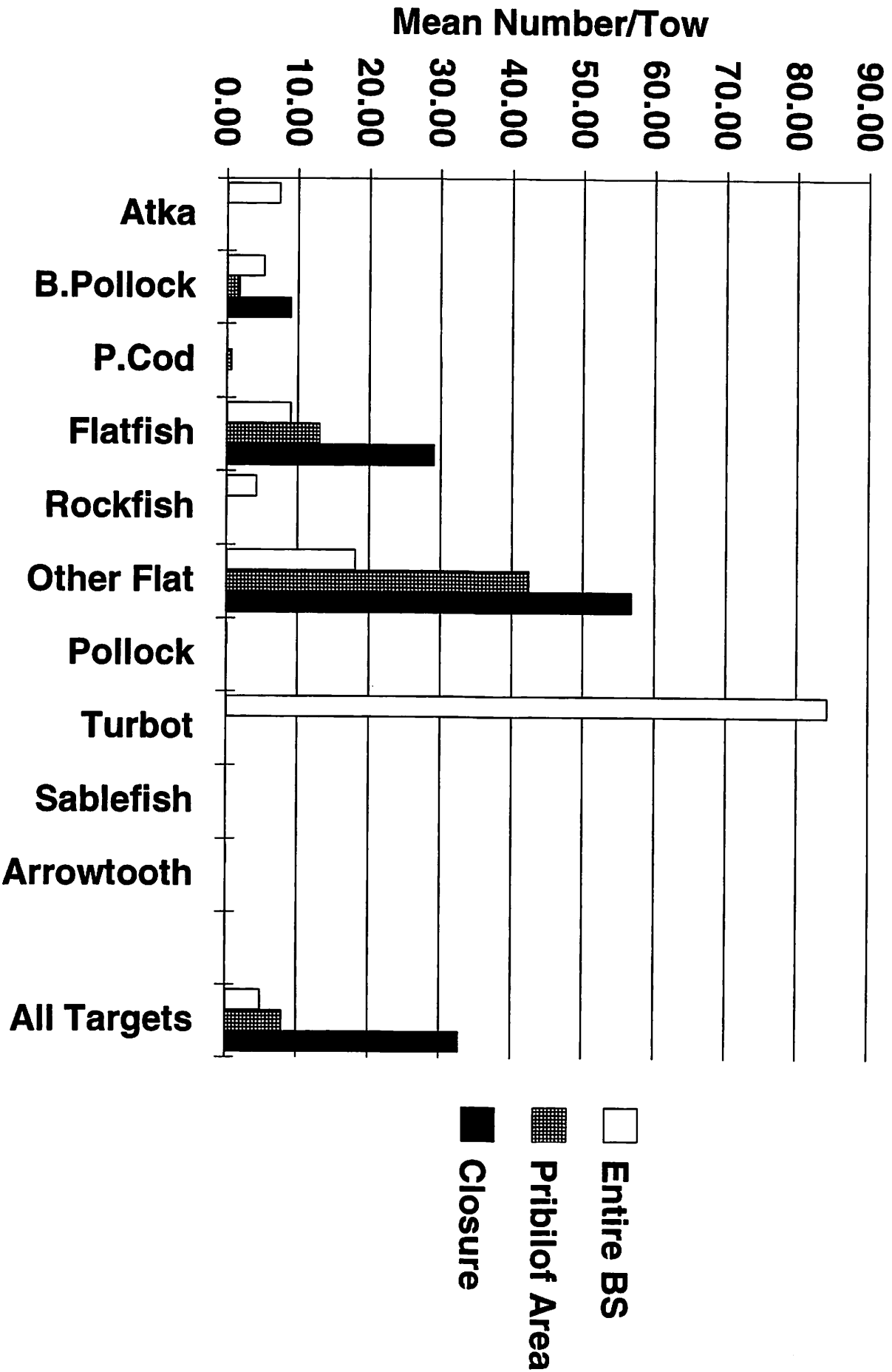
Mean Groundfish Catch per Tow - 1992



Mean King Crab Bycatch per Tow - 1991



Mean King Crab Bycatch per Tow - 1992



Summary

Potential Savings:

Blue king crab juvenile rearing areas.

Core of blue king crab distribution.

Important seabird foraging areas.

Korean haircrab habitat.

Potential Costs:

Minimal impacts to pollock or Pacific cod fisheries.

Potential displacement costs to flatfish fisheries.