

How EBSAs Were Identified

Ecologically and Biologically Significant Areas (EBSAs) are defined as areas worthy of enhanced management or risk aversion.¹ The identification of EBSAs for PNCIMA was completed in two phases.^{2,3}

In Phase I, the identification of Important Areas (IAs), scientific experts were interviewed to determine significant areas.² The assessment of these areas was based on one or more of five criteria: uniqueness, aggregation, fitness consequences, naturalness and resilience.¹ An EBSA is identified if it ranks high in one of the first three criteria and can be weighted higher or lower by either naturalness or resilience. The selection and examination of species and groups were largely driven by the information that was available, much of which was fisheries-based.²

In Phase I, a total of 40 thematic layers were produced, depicting IAs for 144 species. The thematic layers included groundfish, pelagic fish, marine mammals, invertebrates, sponge reefs and oceanographic features. When viewed together, IAs cover almost all of PNCIMA.²

In Phase II, unique physical features of PNCIMA were analysed

for their overlap with the identified IAs. Oceanographic features were chosen because they drive productivity in PNCIMA and support food chains. Bottleneck areas were chosen for their concentration of migrating species such as salmon. Sponge communities were selected for their own global uniqueness, the unique communities they support and their low resilience to disturbance.³

EBSAs are areas that may be worthy of enhanced management or risk aversion

River mouths and estuaries were also deemed significant in PNCIMA but there was insufficient information to rank them. With more information, some rivers or estuaries may be considered as EBSAs. It was recommended that PNCIMA rivers and estuaries be considered for identification exercises at the Coastal Management Area scale.³

A total of 15 features were highlighted for PNCIMA and submitted as EBSAs. Seventy-three percent of the original IAs overlapped with the final EBSAs.³

EBSAs in PNCIMA

The EBSAs identified for PNCIMA are: 1) Hecate Strait Front, 2) McIntyre Bay, 3) Dogfish Bank, 4) Learmouth Bank, 5) Brooks Peninsula, 6) Cape St James, 7) Shelf Break, 8) Scott Islands, 9) North Island Straits, 10 to 13) Sponge Reefs, 14) Chatham Sound and 15) Caamano Sound. Those with the highest overlap with the IAs identified in Phase I include the large Shelf Break, Scott Islands and Chatham Sound.³

A list of the EBSAs on the map by number and the rationale why they were identified are presented in the table at the bottom of the page.³

Material presented is drawn from the following literature reviews, which include primary references:
 1 DFO. 2004. Identification of ecologically and biologically significant areas. DFO Can. Sci. Adv. Sec. Stock Status Report. 2004/051
 2 Clarke, C.L. and Jamieson, G.S. 2007. Identification of ecologically and biologically significant areas in the Pacific North Coast Integrated Management Area: Phase I - identification of important areas. Can. Tech. Rep. Fish. Aquat. Sci 2678. 89pp.
 3 Clarke, C.L. and Jamieson, G.S. 2007. Identification of ecologically and biologically significant areas in the Pacific North Coast Integrated Management Area: Phase II - final report. Can. Tech. Rep. Fish. Aquat. Sci 2686. 25pp.



Triangle Island, Scott Islands. Photo: Jack Mathias

Ecologically and Biologically Significant Areas in PNCIMA³

| Number on Map | Name | Rationale for Identification |
|---------------|----------------------|---|
| 1 | Hecate Strait Front | A tidal front that accumulates productivity. |
| 2 | McIntyre Bay | Eddies in this area support crab larvae and concentrate plankton, which support a wide range of species. |
| 3 | Dogfish Banks | The largest shallow bank in PNCIMA acts as a larval rearing ground for macroinvertebrates. |
| 4 | Learmouth Bank | An isolated bank that traps plankton in the region. |
| 5 | Brooks Peninsula | A source of offshore flow, this peninsula is the north-south range boundary for many species. |
| 6 | Cape St James | The formation of Haida eddies concentrates plankton and transports this productivity into the Gulf of Alaska. |
| 7 | Shelf Break | The upper continental shelf break and deep troughs which support the aggregation of macrozooplankton. |
| 8 | Scott Islands | An area of tidal mixing that drives high productivity which supports many marine and terrestrial species. |
| 9 | North Island Straits | A bottleneck area which serves as an important migration corridor. |
| 10-13 | Sponge Reefs | Sponge reefs found in the deep water troughs are globally unique, long-lived and highly sensitive to disturbance. |
| 14 | Chatham Sound | Coastal tidal mixing and upwelling in this area drives high productivity seasonally. |
| 15 | Caamano Sound | A second area of coastal tidal mixing and upwelling which serves to increase productivity. |

