

Important Areas (IAs) were identified for eulachon and herring in 2006 through interviewing experts and considering relevant literature during the process of establishing Ecologically and Biologically Significant Areas (EBSAs) in PNCIMA.<sup>1</sup>

**Herring**

Pacific herring (*Clupea pallasii*) are found along the North American coast from the Beaufort Sea south to southern California. Pacific herring is a schooling species with populations that undertake both short range (within inlets) and longer range (offshore) migrations.<sup>2</sup>

The areas identified as IAs for herring were based on four life history processes: spawning, rearing, migration and feeding.<sup>3</sup> Pacific herring spawning migrations involve movement from offshore feeding grounds to inshore spawning grounds.<sup>2</sup> Major migration routes for herring include the bottleneck of Queen Charlotte Strait and Johnstone Strait at the south end of PNCIMA, and Chatham Sound in the north.<sup>3</sup> Migration is also believed to take place through Hecate Strait and along the north and east coasts of Vancouver Island, but its details are not yet understood.<sup>1</sup> Five summer feeding areas were identified as herring IAs including the waters surrounding the Scott Islands, and McIntyre Bay and Langara Island off the north coast of Haida Gwaii.<sup>3</sup>

**Eulachon**

Eulachon (*Thaleichthys pacificus*) are a small, anadromous smelt distributed in the Pacific Ocean from northern California to the southern Bering Sea. Eulachon spend up to 95 percent of their life in the ocean and return to freshwater streams and rivers between March and May to spawn.<sup>2</sup>

In BC the marine distribution of eulachon includes deep portions (80 to 200 m) of the continental shelf, particularly around Dixon Entrance, Hecate Strait and Queen Charlotte Sound.<sup>2</sup> Concentrated in Dixon Entrance during summer months, adult eulachon are known to spend two to three years

in these open marine waters before returning to freshwater to spawn.<sup>3</sup> Feeding areas for adult eulachon include the Hecate Strait trough region but are much more extensive than the IAs identified.<sup>2,3</sup> IAs are also located in Chatham Sound and several inlets, including those leading to large runs.

There are 33 rivers in BC where eulachon are known to spawn, 30 of which are located in PNCIMA.<sup>2</sup> Many of these rivers do not have regular

inter-annual spawning. The largest spawning areas occur in the following inlets, from north to south: Alice Arm, Telegraph Pass south of Prince Rupert, Kitimat Arm, Gardner Canal, Dean Channel, North and South Bentinck Arms, Rivers Inlet, Kingcome Inlet, and Knight Inlet. Spawning run sizes are roughly estimated by river width as: very small (less than 5 m), small (approximately 10 m), medium (greater than 20 m), or large (greater than 100 m).<sup>4</sup>

1 Clarke, C.L. and Jamieson, G.S. 2006. 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: vi + 89 p.

2 Lucas, B.G., Verrin, S. and Brown, R. (Editors). 2007. Ecosystem overview: Pacific North Coast Integrated Management Area (PNCIMA). Can. Tech. Rep. Fish. Aquat. Sci. 2667: xiii + 104p.

3 Clarke, C.L. and Jamieson, G.S. 2006. 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: v + 25 p.

4 Hay, D. and McCarter, P.B. 2000. Status of the eulachon *Thaleichthys pacificus* in Canada. Research Doc. 2000/145: 92p.

**Spawning migration routes for herring and eulachon are located in PNCIMA**



Herring catch, dry. Photo: DFO/ PBS/ Nanaimo

