

## Opal Squid

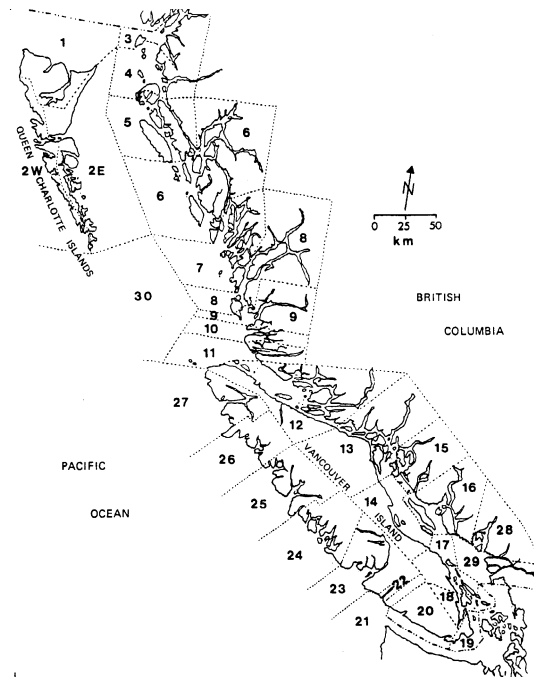
### Background

Opal squid (*Loligo opalescens*), also called market squid, are found from the southern Gulf of Alaska (50°N) to southern California (25°N). They are common in nearshore and inshore waters throughout their range.

Mating and spawning can be separate events for opal squid. The males pass sperm packets to the females during elaborate courtship behaviours. The female stores the sperm until her eggs mature. In British Columbia, spawning generally occurs between December and September, with two major peaks of activity in March and July. There is a general pattern of winter spawning in the Strait of Georgia and Queen Charlotte Strait, with summer spawning near Victoria and on the west coast of Vancouver Island. Spawning squid form large aggregations in sheltered bays and inlets, where they attach elongated, transparent egg masses to solid objects. Adult squid die after spawning.

Eggs hatch after 2 or 3 months in B.C., depending on the temperature. Young squid grow rapidly, and move to the bottom at about 5 cm total length. Opal squid can grow to approximately 35 cm total length, but rarely exceed 20 cm in B.C. Males grow larger than females. Squid may become mature at 1 year, and live less than 2 years.

Opal squid feed on small fish, euphausiids and other plankton, and on smaller squid. They, in turn, are preyed upon by salmon and numerous other fish species, marine mammals and sea birds.



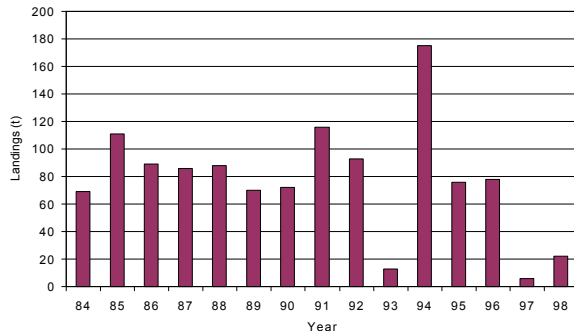
Coastal British Columbia, showing Pacific Fishery Management Areas

### The Fishery

In B.C., opal squid are fished primarily as bait for the sablefish, crab, and halibut fisheries. There is interest in marketing B.C. squid as a food product, however, the food market is very competitive, and demand is currently filled by squid from California and China. Opal squid are primarily fished with seines in B.C., although the use of dipnets, frame nets and jigs are allowed. Squid are attracted to the vessel at night by bright lights, and a seine set around the aggregated squid.

Opal squid landings are highly variable from year to year. Record landings were reported in 1994, and have decreased dramatically since. The west coast of Vancouver Island, primarily Pacific Fisheries Management Area (PFMA) 23, has traditionally accounted for the greatest share of B.C. opal squid landings. In 1995, 1997 and 1998, however, the north coast (PMFA 1 through 10) accounted for the majority of coastwide landings. This is due not only to an increase in landings from the north coast, but also to a decrease in

landings from the west coast of Vancouver Island. It is not known whether the change in the pattern of landings is due to a change in squid distribution, or other factors.



**Annual Landings (t) of opal squid in British Columbia, 1984-1998**

### *Effort*

The number of vessels purchasing squid licences increased from 46 in 1994 to 107 in 1996. At the same time, however, the number of vessels reporting landings only increased from 7 to 15. The number of licences dropped dramatically in 1997, with a slight increase in 1998. The number of vessels reporting landings has greatly decreased since 1996. Reported days fished increased to a record 529 in 1996, but decreased to less than 50 days in each of 1997 and 1998.

**Number of opal squid licences issued, effort and landings of opal squid in British Columbia, 1984-1998**

Year	No. Licences Issued	No. Licences Fished	Days Fished	Landings (t)
1984	99	26	265	13.7
1985	76	24	276	111.6
1986	61	18	294	78.8
1987	69	8	126	86.0
1988	72	8	45	88.5
1989	72	7	56	69.9
1990	88	9	115	72.2
1991	80	9	65	116.2
1992	47	5	95	92.7
1993	47	7	88	13.4
1994	46	7	218	175.4
1995	81	9	274	75.9
1996	107	15	529	77.7
1997	55	7	16	5.9
1998	86	5*	49	21.8

Source: Sales slips (\* from logbook data)  
1997 and 1998 statistics preliminary

### *Resource Status*

Catch and effort are likely under-reported in the squid fishery. Since the main market for squid is for bait, a considerable portion of the catch may be used by the fishers in other fisheries, or bartered to other fishers, and thus would not be reported on sales slips. Aggregations of sufficient abundance to be effectively fished are uncommon, and it is difficult to predict when and where these aggregations may appear. As with most squid, opal populations are characterized by highly variable recruitment and erratic variation in annual abundance. As opal squid live less than two years, population size is primarily determined by annual recruitment. Although recruitment cannot be predicted with any certainty, there is some evidence from California of low recruitment in years of cooler water temperatures.

The stock status of opal squid in B.C. is unknown. With the exception of collecting harvest logbook information and ensuring that logbook data is available, there are no directed assessment programs. Few vessels report landings of squid in B.C., relative to the number of licences purchased. Fishermen may be purchasing squid licences for speculative purposes, as this fishery is one of the few on the west coast not under licence limitation.

### *Outlook*

Because British Columbia is near the northern limit of distribution of opal squid, population levels are expected to be more variable than in the centre of the species abundance. It is not known whether sufficient stocks would be available annually to support a larger fishery than currently exists in B.C.

### *Management Considerations*

Fishing with small-mesh seines has potential for bycatch of juvenile herring and salmonids. For this reason the coast is closed to squid fishing year-round, and specific areas are opened upon request, after managers have assessed the

potential for bycatch problems. With the exception of bycatch concerns, opal squid fisheries in B.C. are not actively managed at this time.

### ***For more information***

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