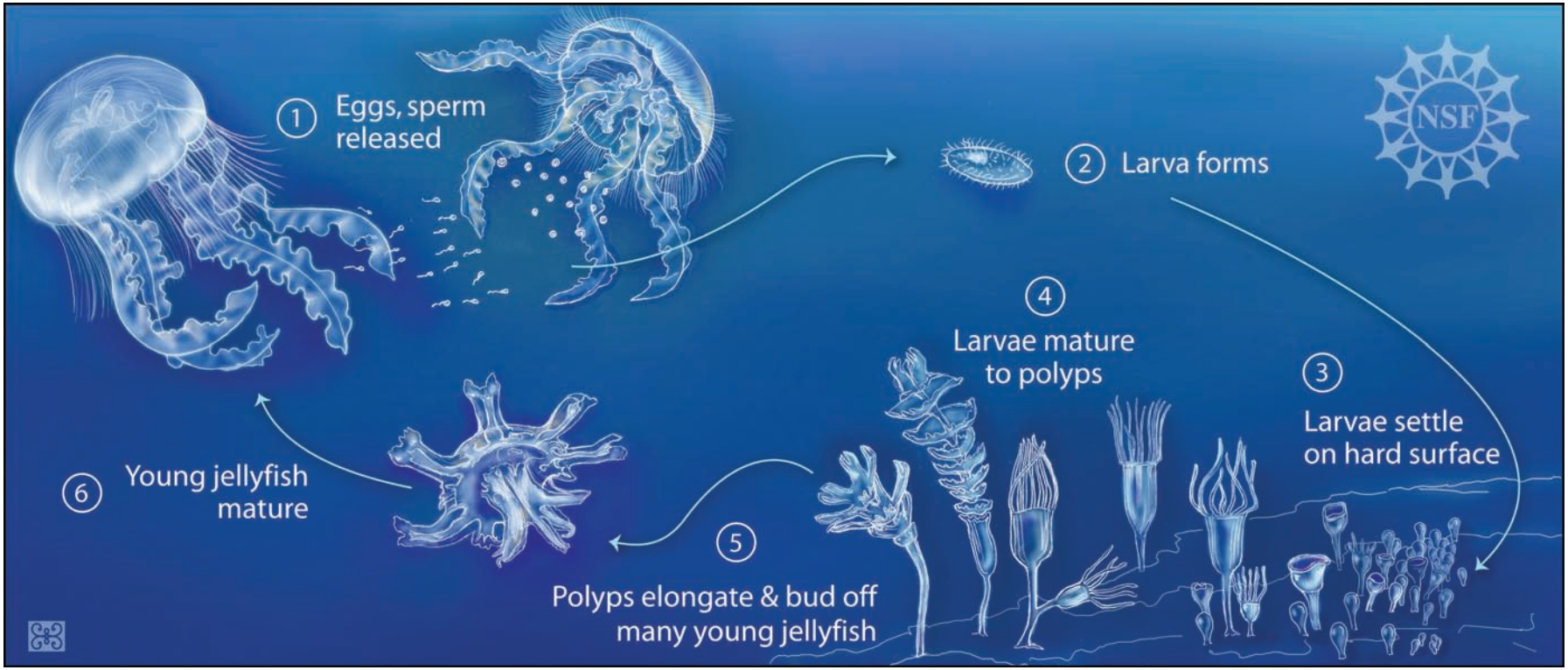
JELLYFISH REPRODUCTION: The Holy Grail to Understanding Jellyfish Blooms



Many jellyfish species reproduce extraordinarily quickly. How? By using a peculiar combination of sexual and asexual reproduction involving these steps:

1. Eggs and sperm are released by adult jellyfish—sometimes at incredible rates.
   For example, jellyfish known as sea nettles that live in the Chesapeake Bay may each shed 40,000 eggs daily.
2. A jellyfish egg unites with a jellyfish sperm to produce a larva.
3. Each larva attaches to a hard surface, such as a rock or an artificial structure like a drilling rig, at the ocean bottom.
4. The larva lives as a stationary polyp at the ocean bottom. Although much about polyps—which have only rarely been found in the wild—remains mysterious, scientists suspect that they may simultaneously blanket large expanses of ocean floor. They also suspect that polyps may opportunistically extend their polyp phase from days to even years or decades until conditions, such as temperature and food, are favorable to their survival as adults.
5. Once conditions become favorable, each polyp elongates and then buds off and releases many young jellyfish. A single polyp may thereby, by itself, reproduce large numbers of jellyfish. What's more, individual polyps probably don't churn out young jellyfish in isolation. Rather, fields of polyps probably simultaneously transform into veritable jellyfish factories, mass producing tens of thousands of jellyfish at a time. Swarms of young jellyfish may thereby quickly form when their survival prospects are best.
6. Each young jellyfish rapidly develops into an adult jellyfish, and the cycle repeats.

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For more information on Jellyfish see:
http://nsf.gov/news/special_reports/jellyfish/index.jsp

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