

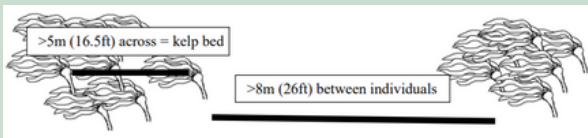
# Kelp Kayak Survey Protocol

## Materials:

- Kayak and paddle
- Safety equipment
- GPS unit
- Depth measuring tool
- Temperature sensor
- Camera

## Sampling summary:

- Identify kelp beds within shoreline segments.
  - Distinct beds are defined as:



- Track perimeter of each bed.
- Measure depth and temperature at points along bed edges.
- SAFETY: Highly advised to be trained in kayak safety. Be aware of tidal conditions, boat traffic and other hazards.

## Waypoints saved:

- Survey start and end points
- Perimeter start and end points
- Temp/depth points
- Kelp clusters ( $\leq 10$  bulbs present)

Adapted from:

[Northwest Straits Foundation 2023 kelp kayak survey\\_protocol.](#)



## Methods:

**Shoreline segments:** Each site should have defined segments that run perpendicular to the shoreline. These shoreline segments create spatial boundaries that guide surveyors in returning each year to ensure consistent comparisons over time. During the survey, record the starting point and the furthest point paddled to before turning around.

**Perimeter:** Begin by taking a waypoint, then start recording a GPS track as you paddle around the perimeter of a kelp bed. Stay within 1 meter (3ft) of the outermost plants. Navigate along the deep edge of the bed under optimal conditions (such as slack current) to ensure the most accurate perimeter capture. Once the perimeter is completed, stop and save the track recording, and record a waypoint.

**Temperature & Depth:** For each bed, measure the surface temperature and water depth at two locations along the bed's perimeter closest to shore (shallow edge). Repeat this process at two locations along the bed's perimeter on the opposite side (deep edge).

**Kelp Clusters:** Take a waypoint in instances where there are  $\leq 10$  kelp bulbs present in your survey area but do not constitute a kelp bed. Note the number of individual bulbs on the datasheet along with waypoint number. Take a single depth measurement and temperature measurement with the waypoint.

**Photo points:** Take one picture of the kelp bed on the water side facing shore (Towards beach: ToBe).