WASHINGTON OCEAN USES ATLAS PROJECT
OCEAN USES MAP BOOK

Introduction

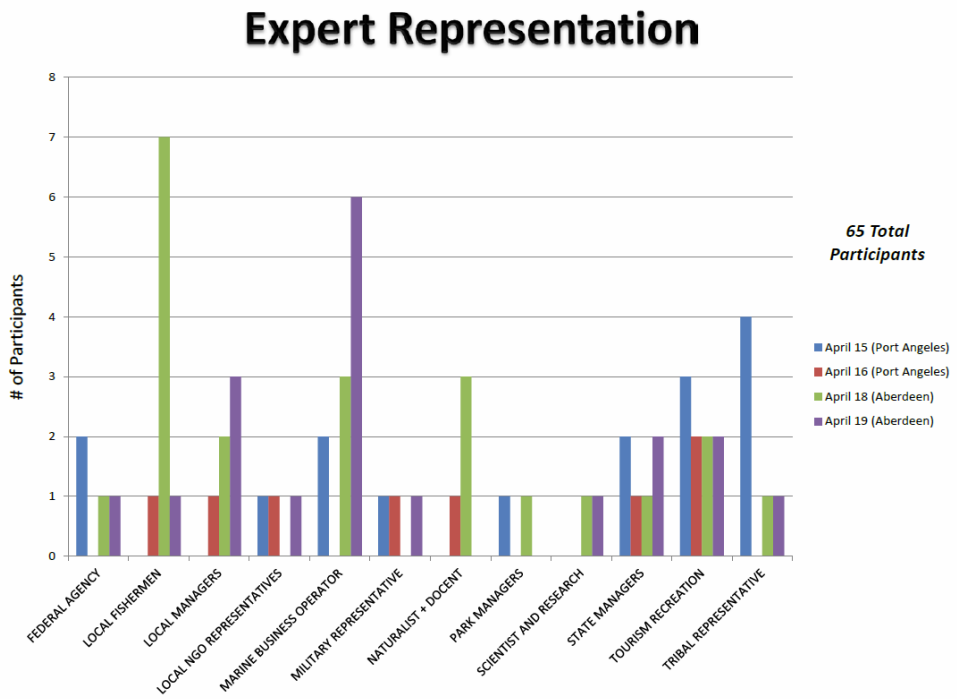
This map book contains cartographic products derived from the Washington Ocean Uses Atlas participatory mapping workshops conducted in Port Angeles on April 15-16, 2013 (at the Clallam County Courthouse) and Aberdeen on April 18-19, 2013 (at Grays Harbor College). These participatory mapping workshops were designed to collect spatial data from regional ocean uses experts and stakeholders for a wide range of activities that occur throughout the coastal and marine waters offshore of Washington. Through facilitated discussion and hands-on digital mapping, workshop participants documented areas where uses occur, variation in use patterns and historical and/or community perspectives on how the use has evolved over recent years.

The Washington Ocean Uses Atlas project is a collaborative effort between NOAA, the Bureau of Ocean Energy Management, and Washington state agencies designed to collect spatial data on ocean uses throughout Washington's coastal and offshore waters to inform the state's marine spatial planning process and planning for potential offshore renewable energy development. The project was funded by the U.S. Department of the Interior, Bureau of Ocean Energy Management, through an Interagency Agreement with the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service.

Workshop Attendance

The four days of participatory mapping workshops were facilitated by 7 staff from both NOAA Coastal Services Center and NOAA's Marine Protected Areas Center.

In total over the 4 days, 65 participants attended from throughout the state, representing all use sectors, including tribal representatives from the Makah Tribe, Quileute Nation and Quinault Indian Nation. The participants spanned a wide range of expertise, as shown on the adjacent plot.



October 2013

Targeted Uses

Industry/Military Sector	Extractive Sector	Non-Extractive Sector
• Commercial Shipping • Mariculture • Marine Debris • Military Operations • Mining and Mineral Extraction • Ocean Dumping • Renewable Energy • Underwater Transmission Cables • Underwater Pipelines	• Commercial Dive Fishing • Commercial Fishing with Benthic Mobile & Fixed Gear • Commercial Intertidal Harvest • Commercial Pelagic Fishing • Commercial Seaweed Harvest • Kayak Fishing • Recreational Dive Fishing • Recreational Fishing from Boats for Benthic & Pelagic Species • Recreational Fishing from Shore • Recreational Intertidal Harvest • Subsistence Fishing and Harvest	• Beach Use • Cruise Ships • Cultural Use • Motorized Boating • Paddling • Permanent Research Areas • Sailing • SCUBA/Snorkeling • Surface Board Sports • Swimming • Tide Pooling • Wildlife Viewing at Sea

The following is the list of uses that were mapped in the workshops. Maps for each of these uses are provided at various scales in this map book and include definitions for each use category.

Generalized Workshop Process

At the start of the workshop, participants were assigned to a work group and an associated mapping station. With guidance from facilitators, participants were asked to draw use areas based on their knowledge and observation of where this type of activity is known to occur. For some uses, existing data was presented and participants were asked to review, if necessary, modify the existing data for completeness and accuracy. Each use was explicitly defined (see uses list) and participants were asked to map the general use footprint and dominant use areas, as described below. Participants were also asked to record relevant supplemental information (e.g., seasonality, social and cultural significance, historical patterns) that was compiled and added to the final use maps. The following provides detail for type of information collected for each use category:

- **General Use Footprint:** The general use footprint includes all areas in which the use is *known to occur with some regularity* (over the past 3-5 years), regardless of its frequency or intensity. The general use footprint does not include areas where the use may occur once or twice or where it might *conceivably* occur now or in the future.

- **Dominant Use Areas:** Dominant use areas are defined as *ocean areas routinely used by most users most of the time* (within the seasonal patterns for that use). Dominant use areas must be drawn within the general use footprint. Participants were asked to work together to draw dominant use areas as they occur throughout the study region.

- **Supplemental Use Data:** Participants were asked to provide supplemental information on the *ocean use information form*. For some uses, participants noted specific locations on the map where variation of the use occurs (e.g. fishing for special events, night vs. day fishing). This information was compiled and added to the use maps in the notes section.

Tribal uses of the ocean were not mapped explicitly, though tribal chairs and/or their designated representatives were formally invited by BOEM to participate in the mapping workshops. The sharing of tribal use information was dependent upon each tribe's determination of whether the mapping

workshops were an appropriate forum for sharing such information. Any tribal use information shared during the workshops was incorporated into the defined use categories. Thus, the atlas data and map products do not explicitly depict tribal use.

Maps

Data compiled during the workshop were processed to create maps documenting the use patterns as drawn by the workshop participants. The following maps show patterns for each use mapped in the workshops and include the general use footprint and dominant use areas, as well as a compilation of the supplemental data provided by participants throughout the mapping process. In creating the use maps, note the following protocol used to create the general use footprint and dominant use areas.

The ***general use footprint*** includes **ALL** areas that were mapped as general use by **ANY** of the groups that mapped that particular use over the four days of workshops.

The ***dominant use areas*** shown on the maps include **ONLY** those areas that were mapped as dominant by a **MAJORITY** of the groups that mapped that particular use over the four days of workshops.

The maps have been reviewed by workshop participants prior to publication. Slight revisions and modifications were made to some of the draft maps based on the collective participant feedback. For access to the spatial data (including detailed metadata on processing, review and revisions) please visit the Washington Marine Spatial Planning (www.msp.wa.gov) online mapping application.

Contacts

If you have questions about this project, please contact:

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Hugo Selbie
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October 2013

THE WASHINGTON OCEAN USES ATLAS

Participatory ocean use mapping to inform marine spatial planning in Washington's marine waters

Beach Use

Includes:
Walking, running, digging, resting, collecting of shells, wildlife viewing, driving on the beach, camping, kite flying, bonfires, picnicking, dog walking, horseback riding, and skim boarding

Excludes:
Tide Pooling, Mining and Mineral Extraction, Surface Board Sports, Swimming, Harvesting from Shore, Coastal Aquaculture

Use Notes:
Beach use is a year-round activity that is most common on sandy beaches close to population centers. Use is more concentrated along the shoreline in the Olympic National Park and on public beaches for beachcombing after large storms. Day hiking and overnighting along the coastal trail contributes to this use year-round.

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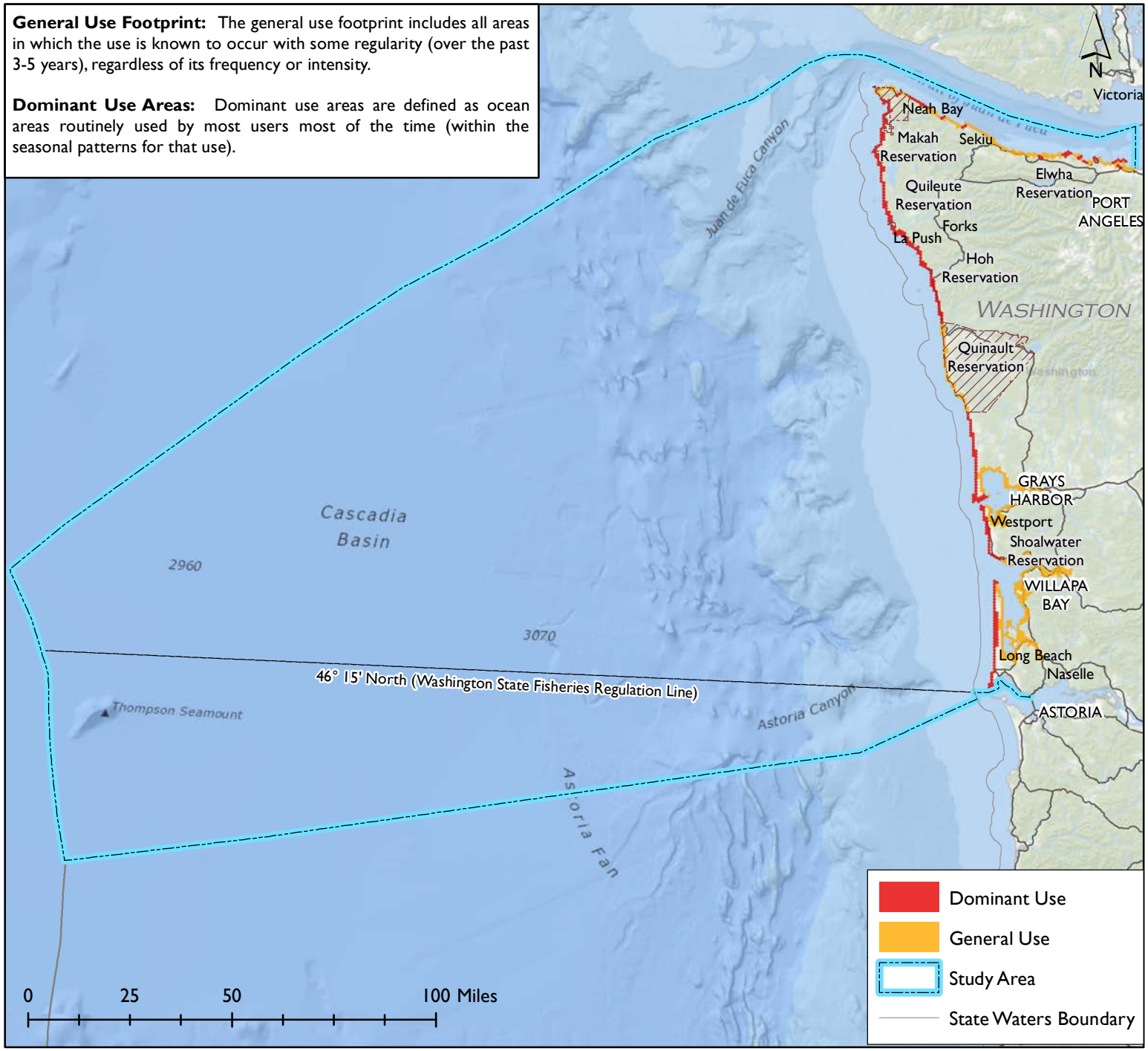

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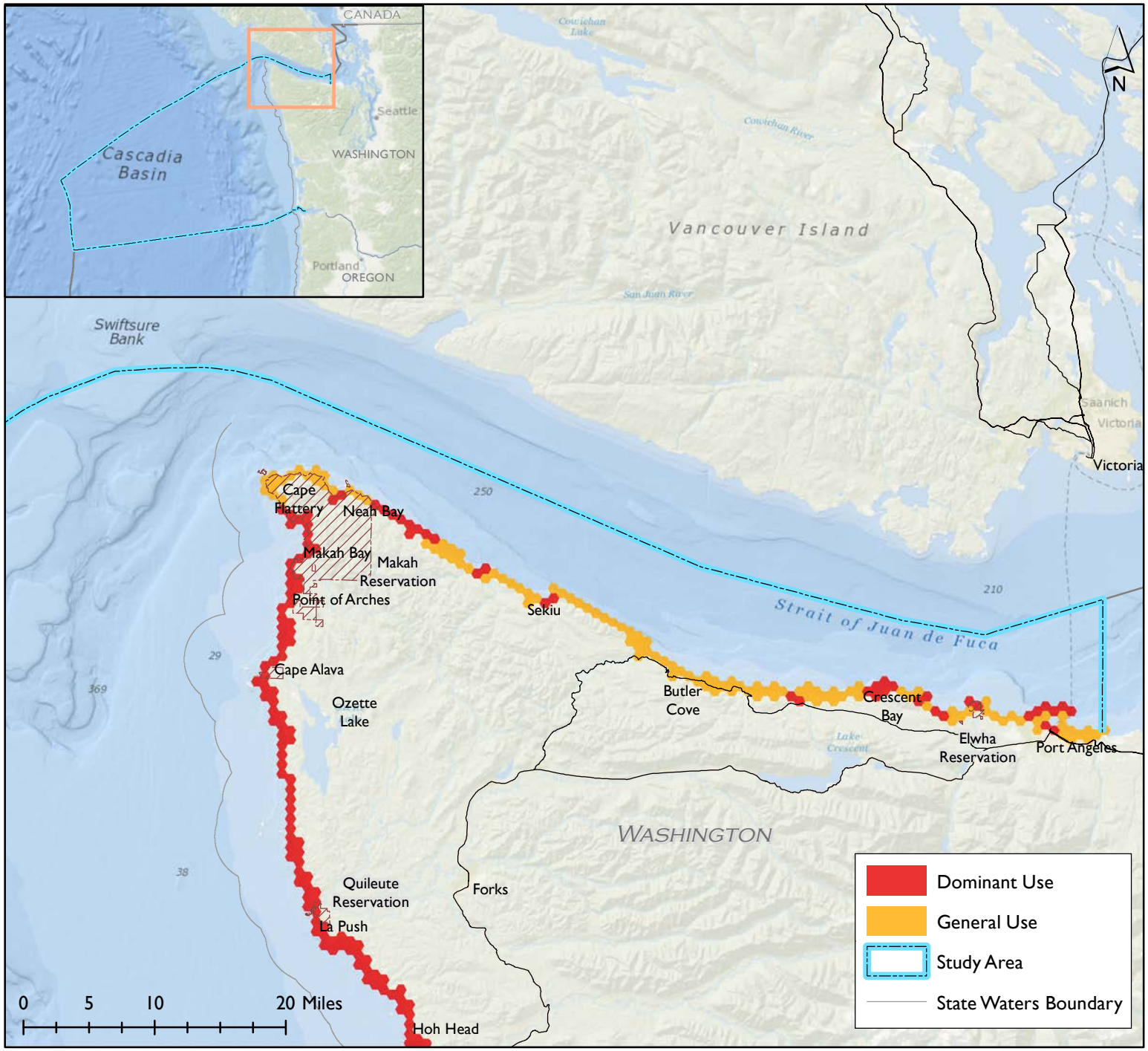

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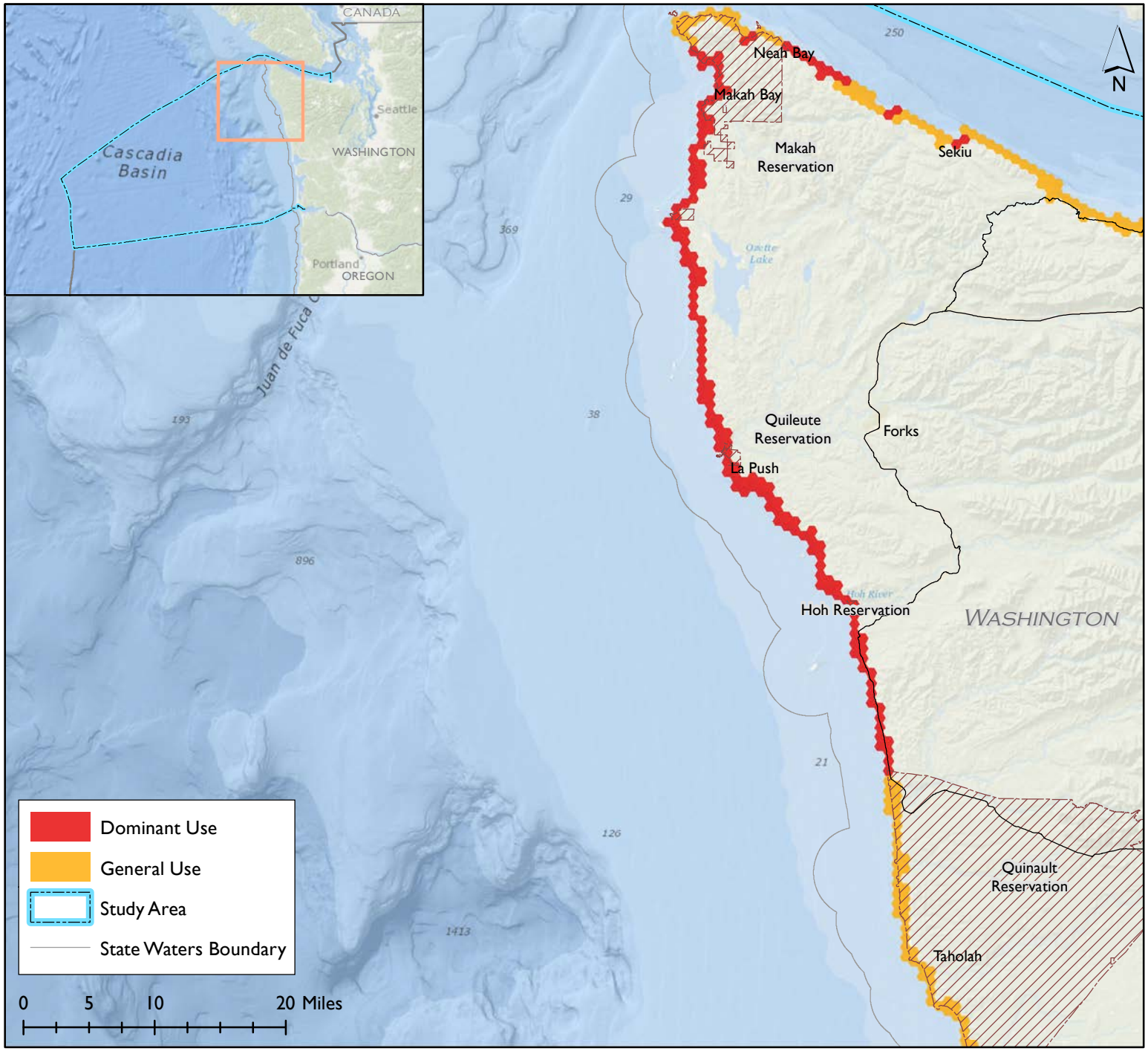

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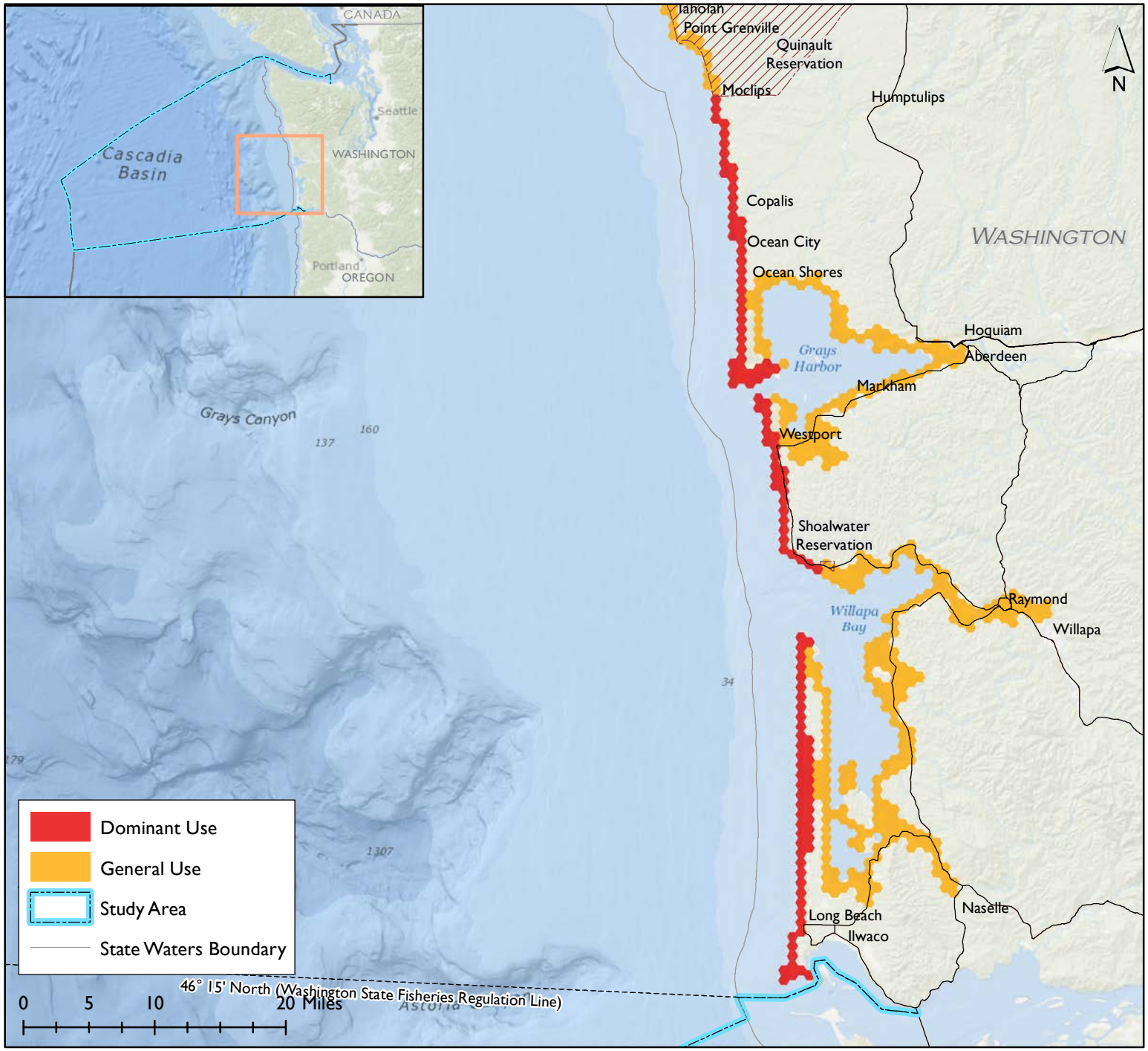

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Motorized Boating

Includes:
Transit, mooring or anchoring by motorized vessels for commercial or recreational purposes, personal watercraft (PWC)

Excludes:
Fishing, Wildlife Viewing at Sea, Cruise Ships, Shipping, Sailing

Use Notes:
Motorized boating is not a common activity for purely recreational purposes (mainly related to wildlife viewing, fishing or other commercial pursuits). The use mainly occurs along the Strait and within bays and harbors for transit purposes.

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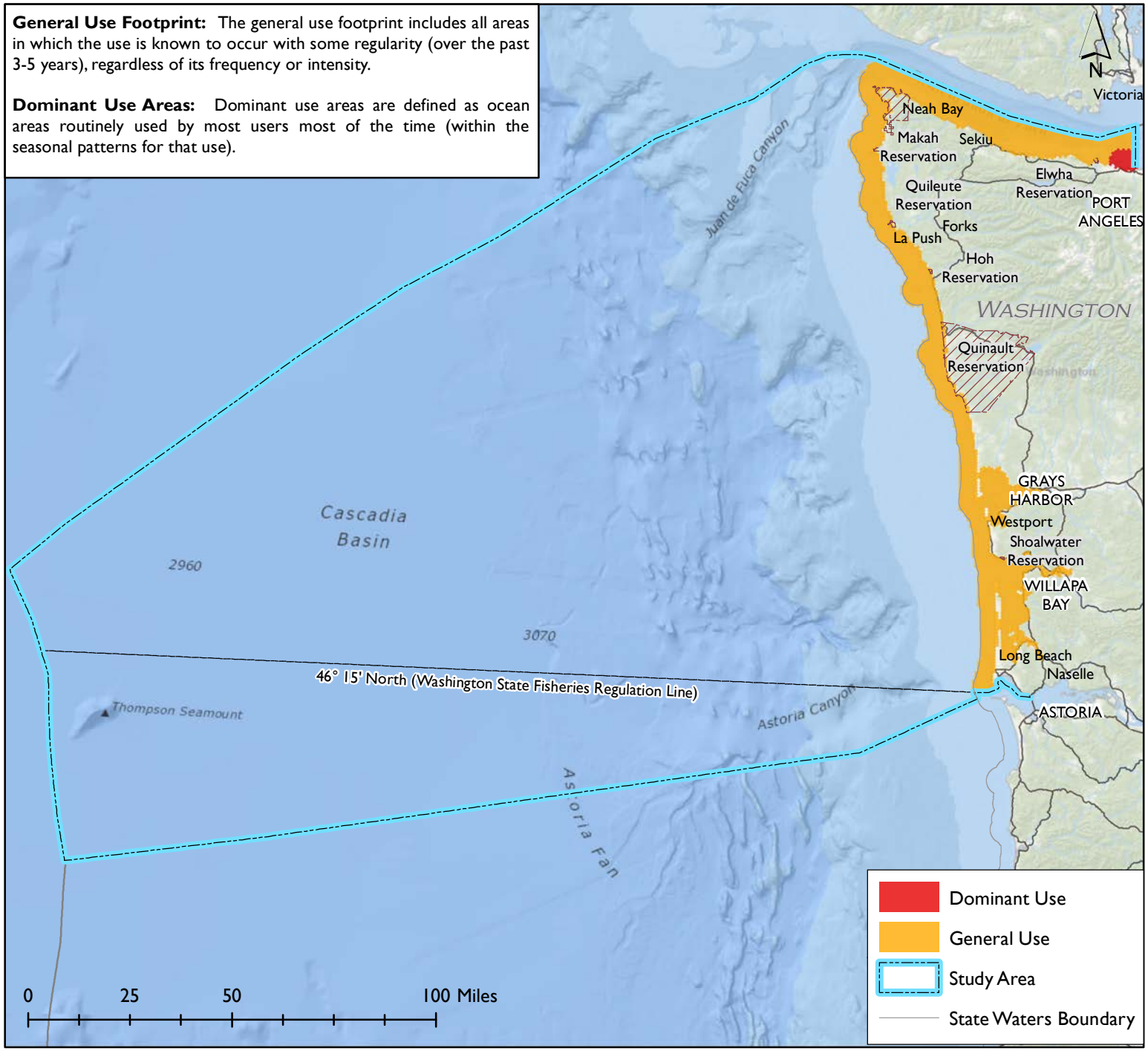

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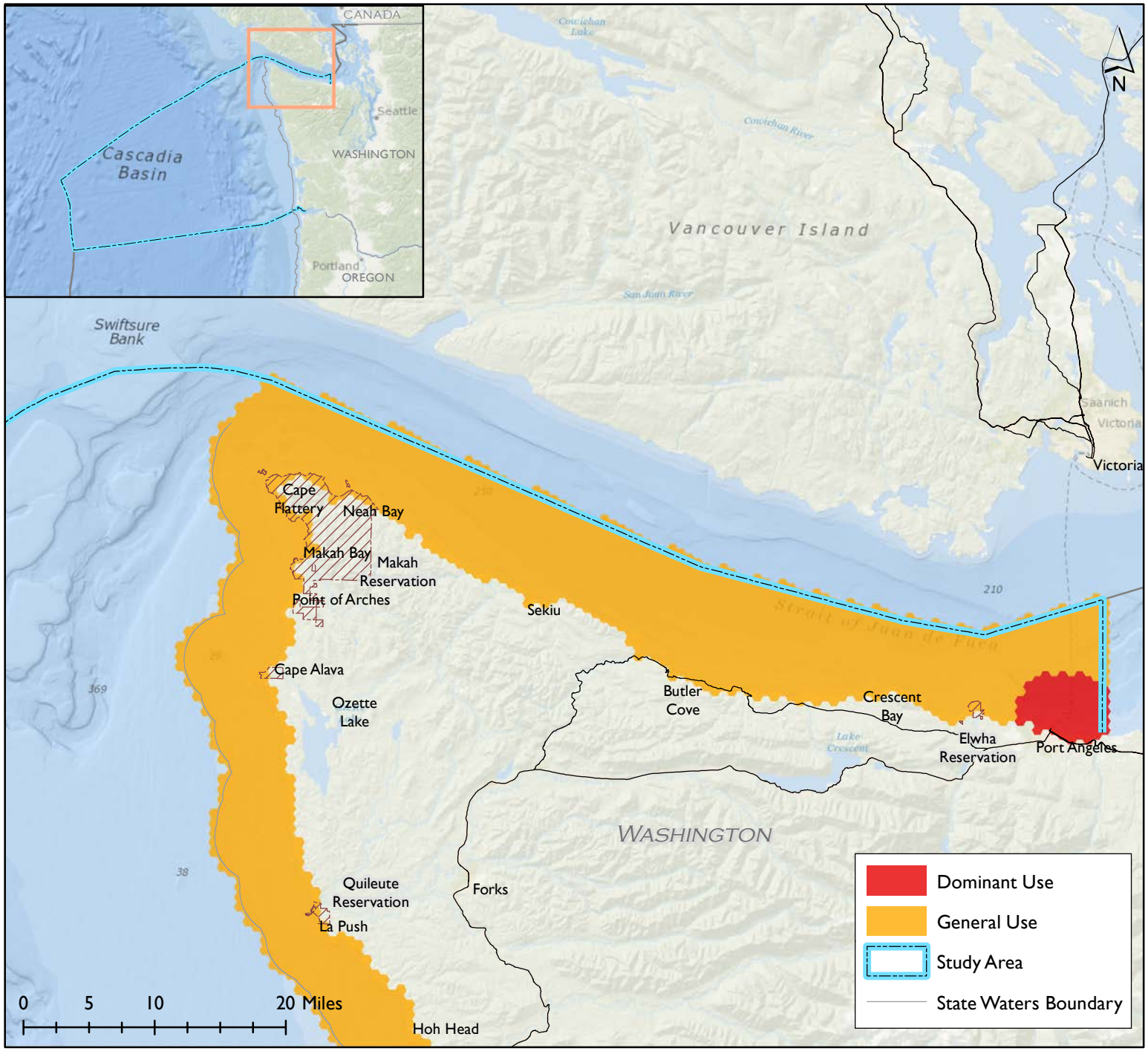

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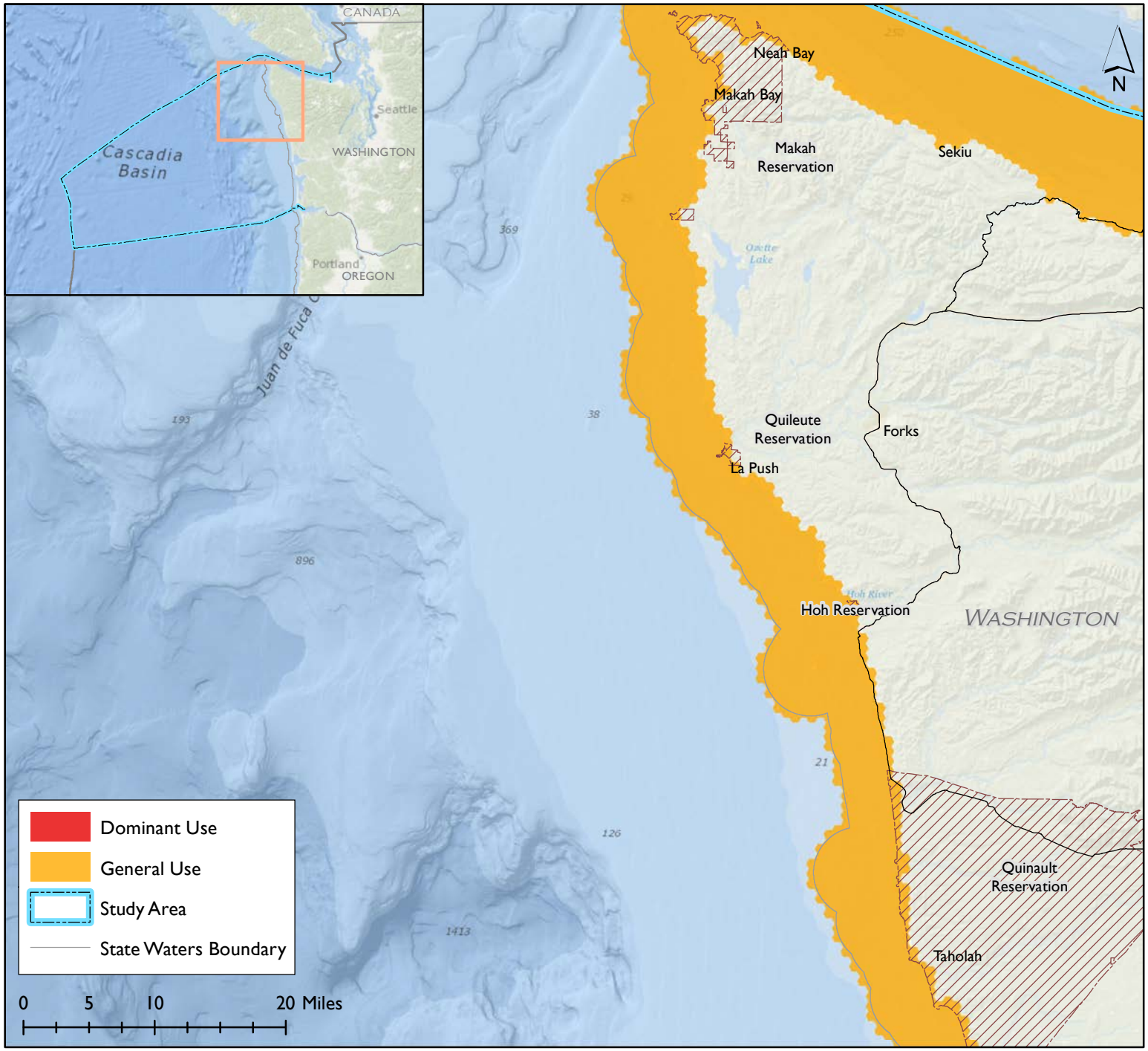

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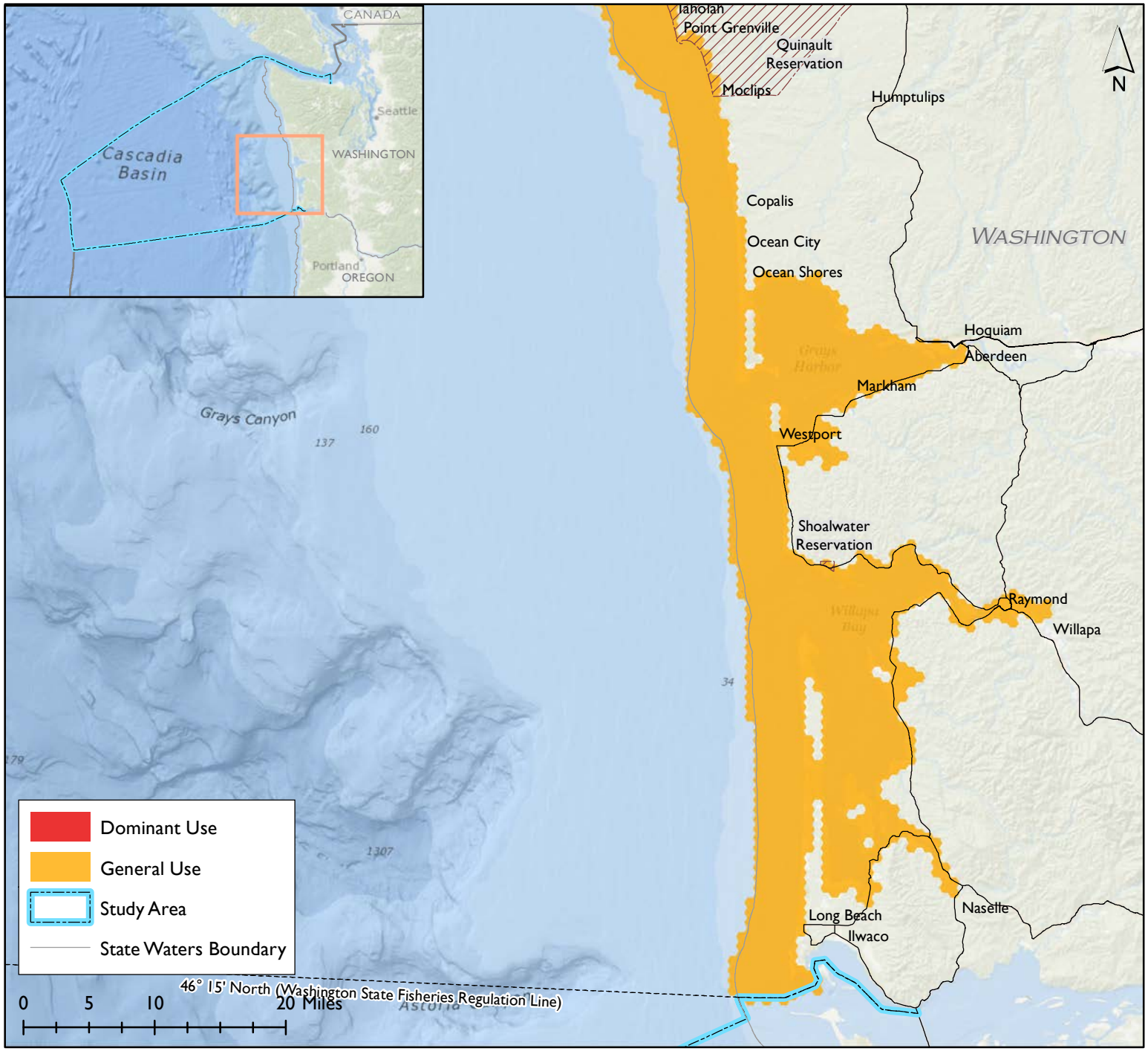

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BOEM Bureau of Ocean Energy Management

Cruise Ships

Includes:
Transit, mooring or anchoring for extended overnight recreational travel on commercial ships

Excludes:
Motorized Boating, Commercial Shipping

Use Notes:
Cruise ships are not a common use in this area and the activity is mainly for transit purpose. Approximately 20-30 ships per year come into Astoria and transit up or down the coast. Some stop in Grays Harbor, but most transit offshore north to Victoria. Cruise ships are observed most commonly in spring and fall and tend to stay at least 20 miles offshore and follow designated shipping lanes except when coming into port where they follow the traffic separation scheme. Some ships pass through the Strait of Juan de Fuca each year headed north to Alaska. They avoid passage through the Olympic Coast National Marine Sanctuary and the nearby Area To Be Avoided (ATBA). This use includes the ferry transit that runs five times daily between Port Angeles and Victoria across the Strait.

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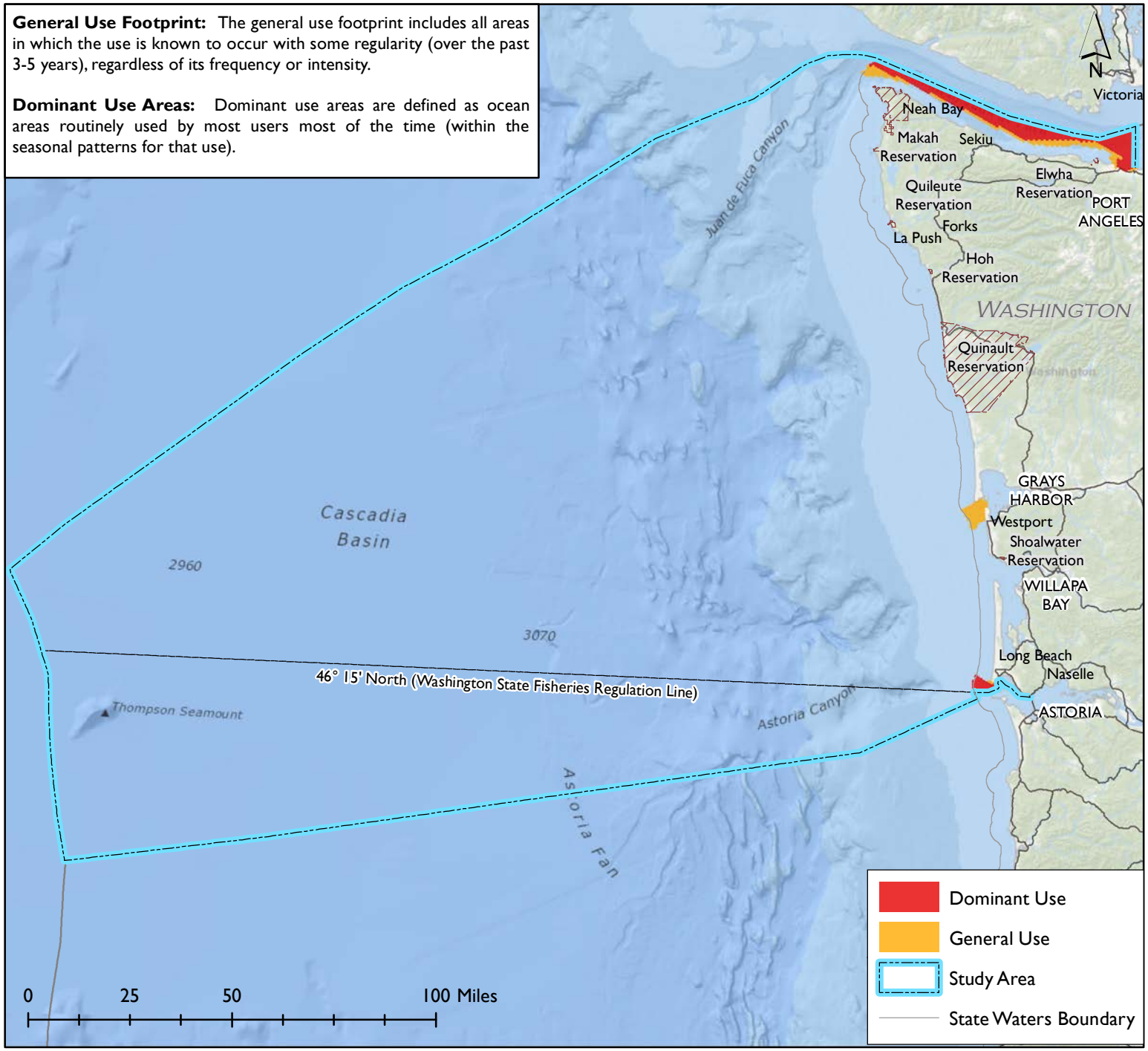

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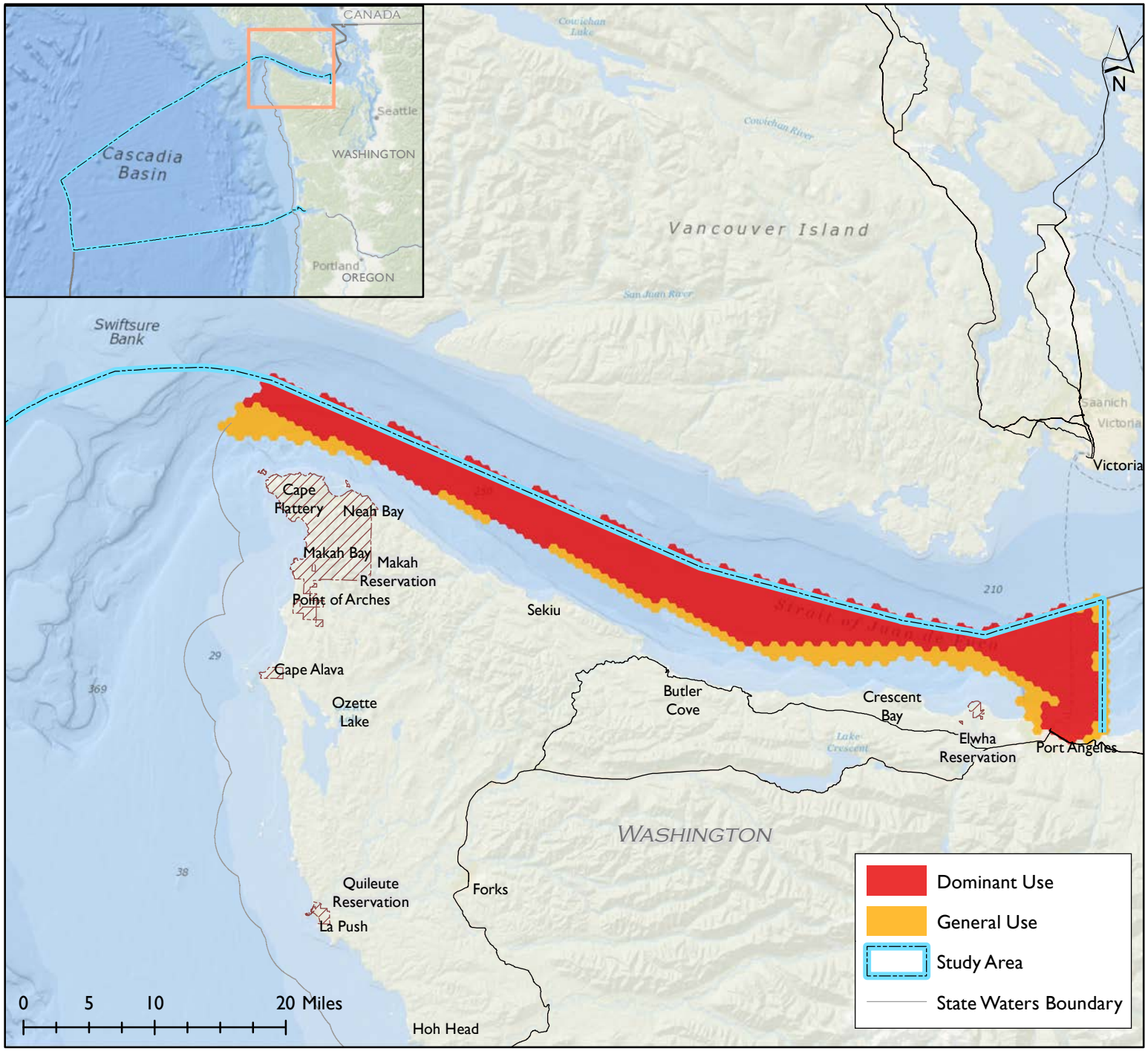

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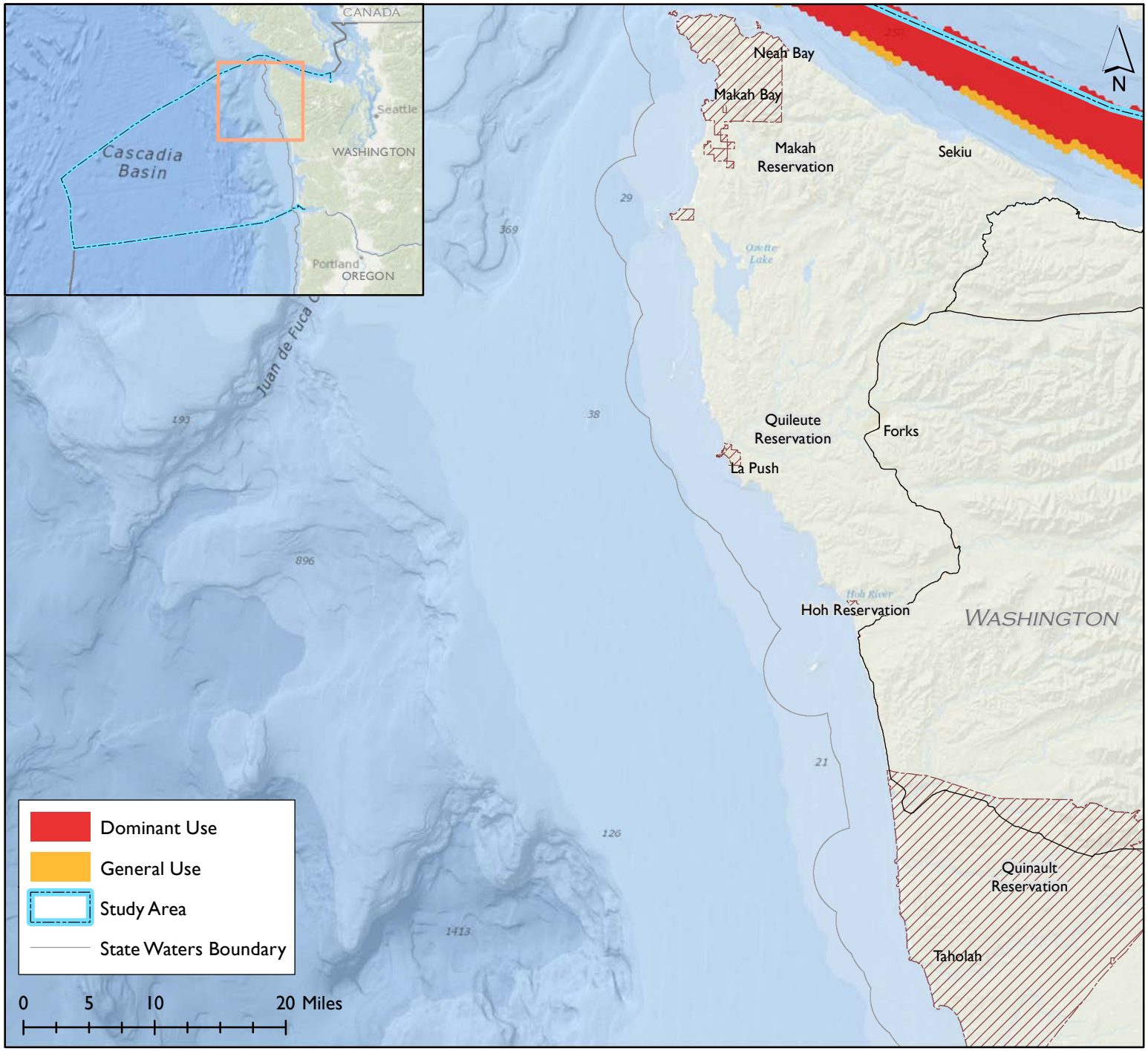

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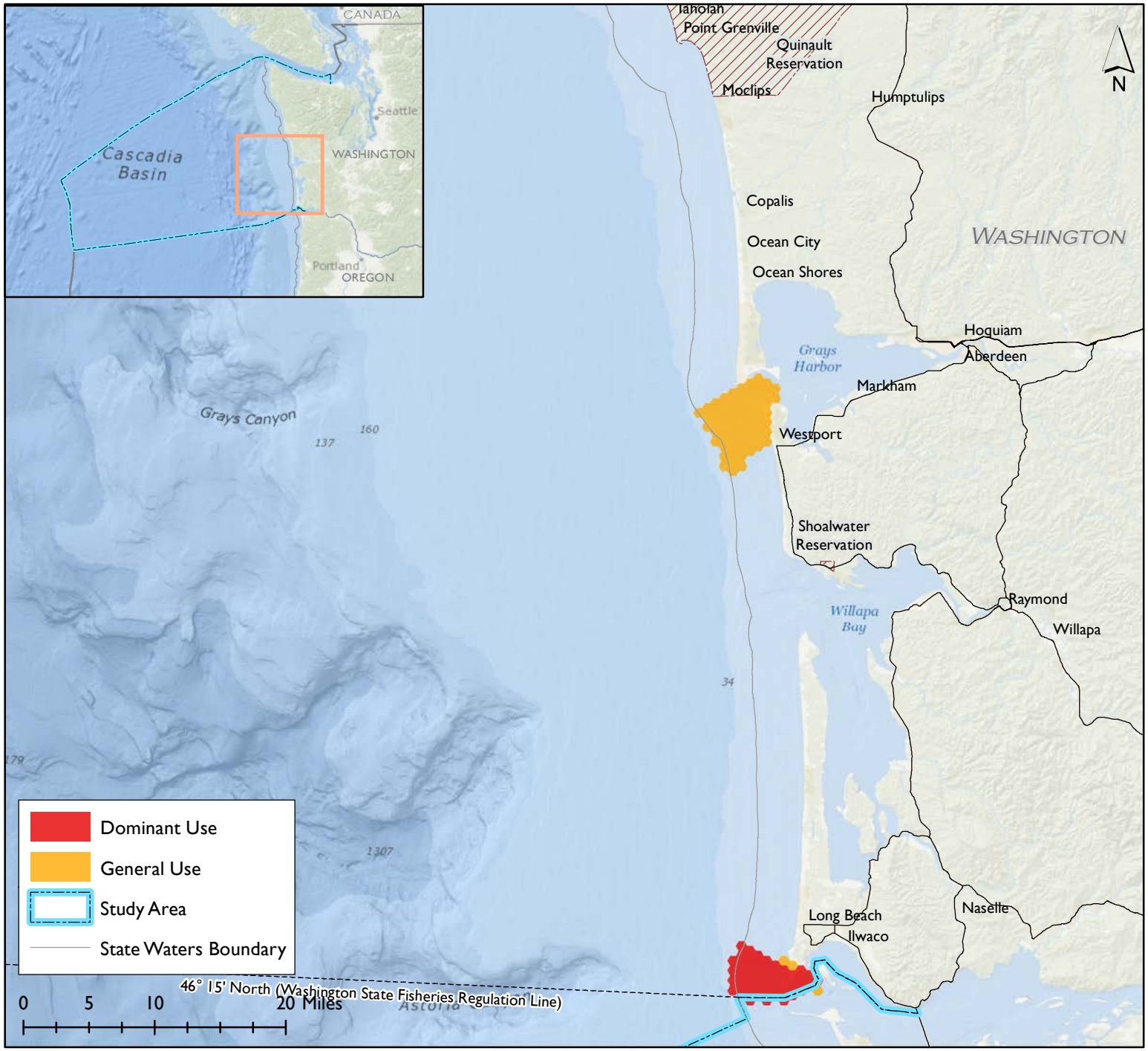

 Date: 12/18/2013

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Cultural Use

Includes:
Traditional use of specific ocean, coastal, and shoreline areas based on inherent cultural, spiritual, or aesthetic values and significance

Excludes:
All other uses and activities

Use Notes:
Cultural use is found all throughout the study area. This use includes tribal Usual and Accustomed Areas, shipwrecks, lighthouses, forts, archaeological sites, memorials, cemeteries and the viewshed along all ocean beaches.

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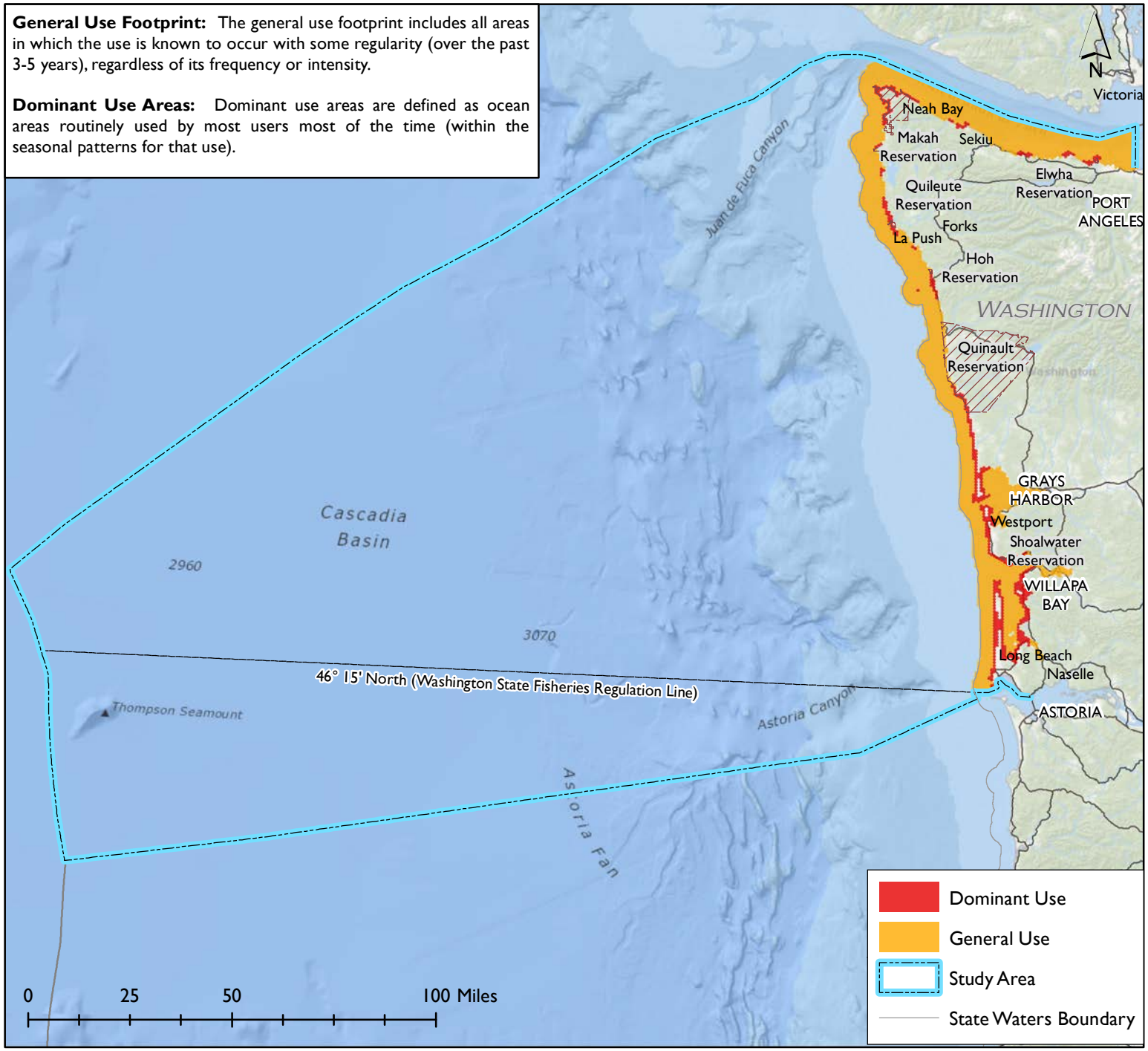

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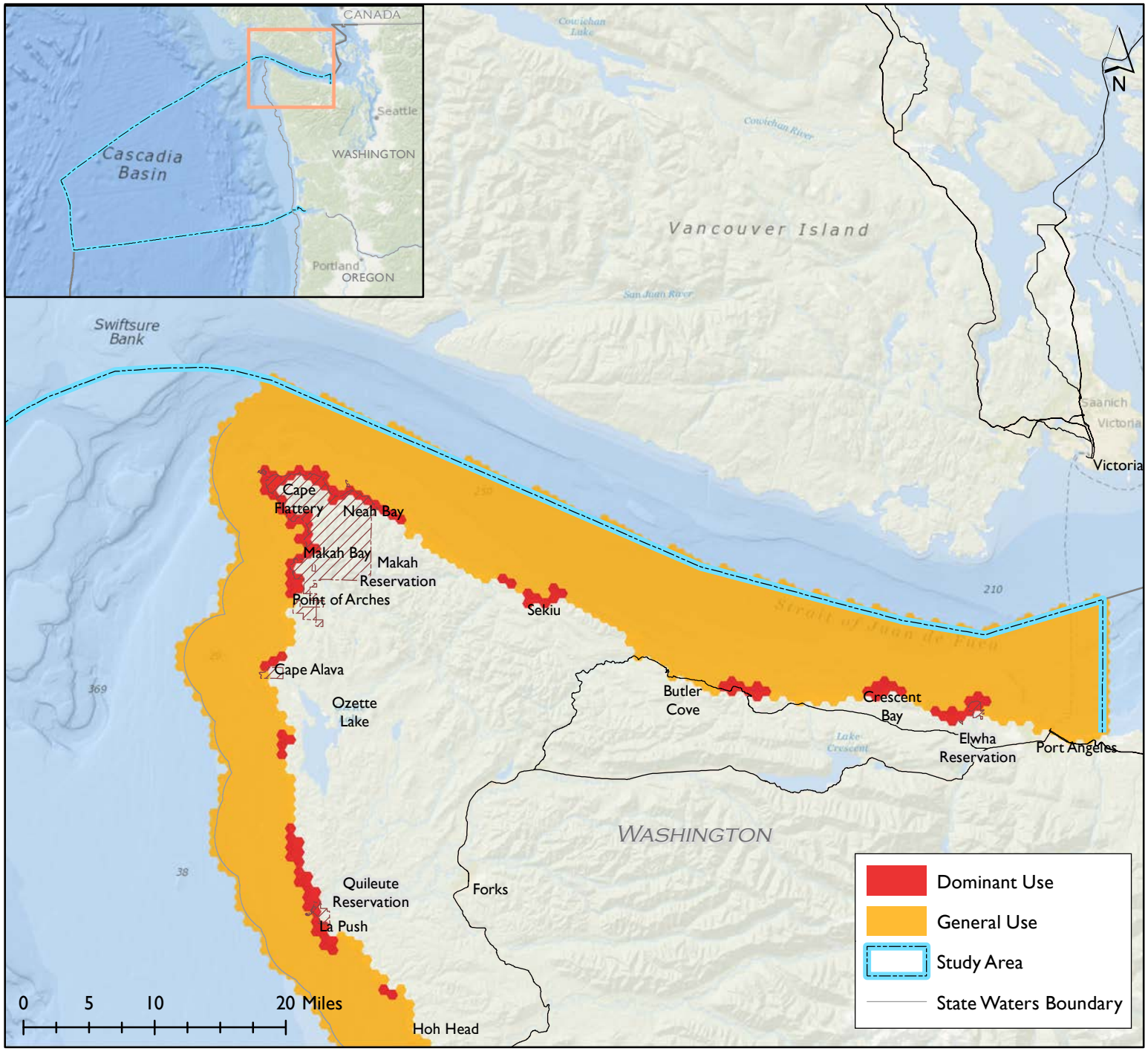

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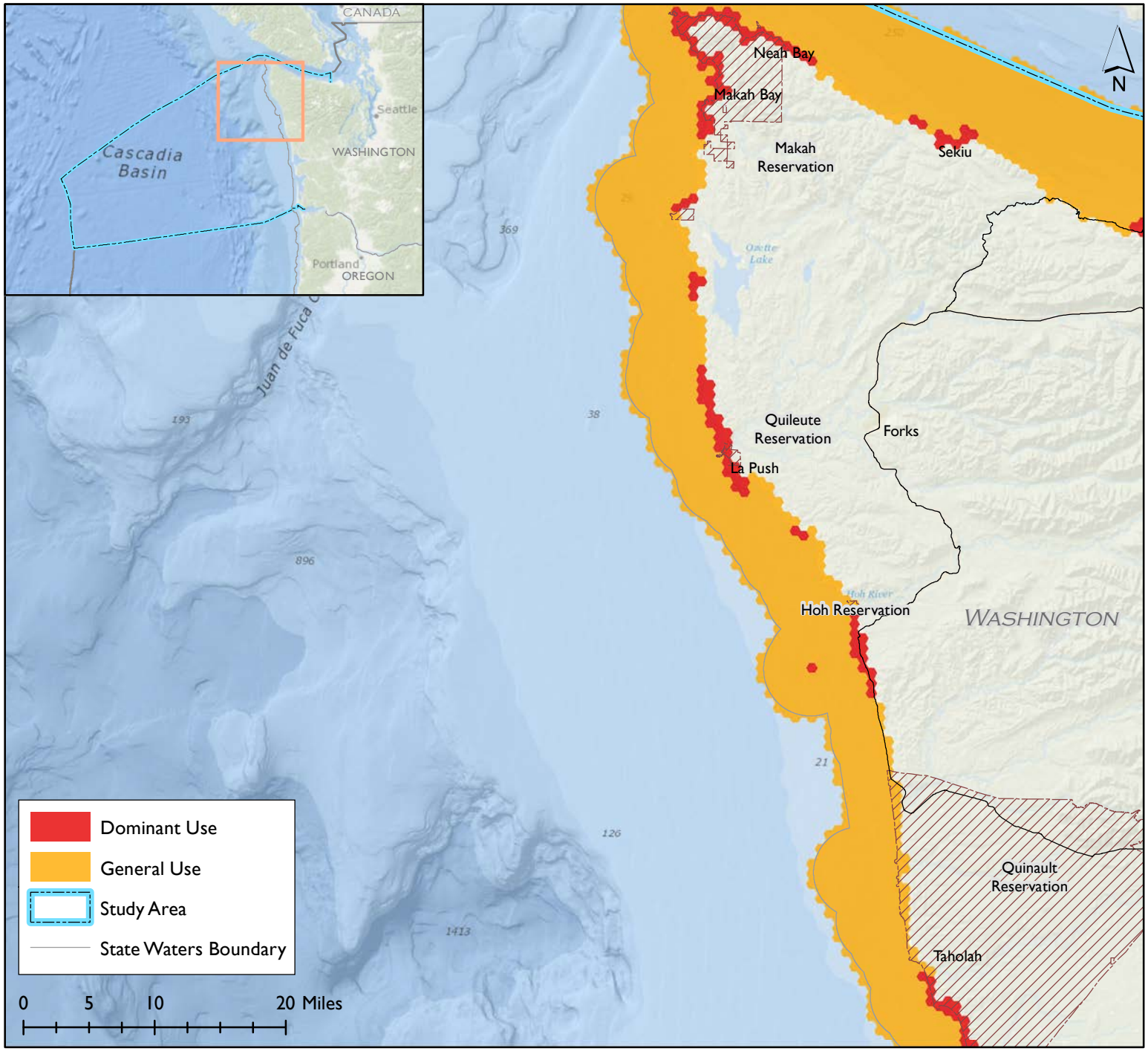

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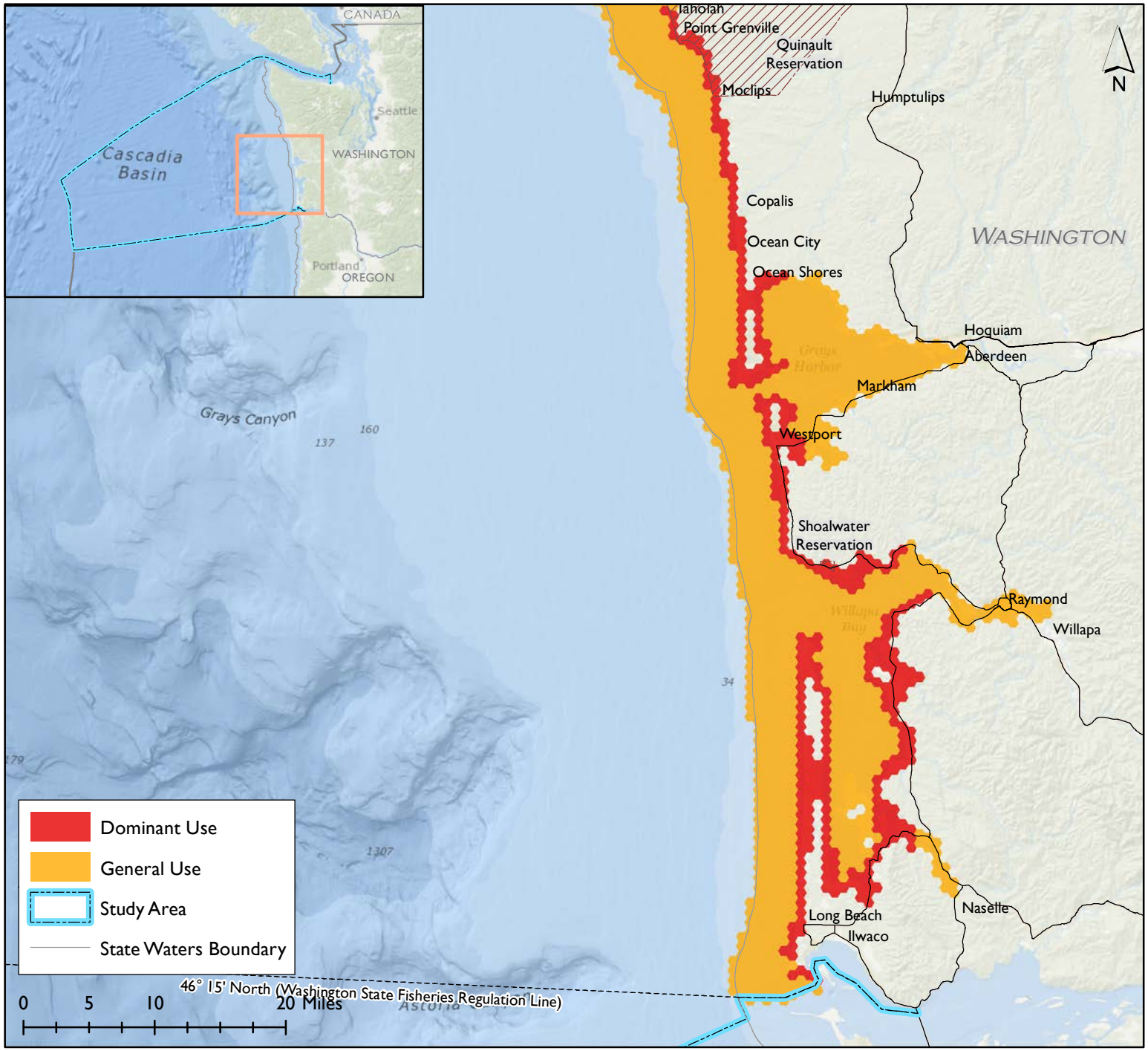

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Paddling

Includes:
Kayaking, canoeing, rowing, outrigger paddling, stand-up paddling

Excludes:
Motorized Boating, Surface Board Sports

Use Notes:
Paddling is most common along the Strait de Juan de Fuca from Neah Bay to Port Angeles. The use can extend out to one mile from shore, but is more common within 0.5 miles. This use includes the tribal Canoe Journeys which occur along the coast every year.

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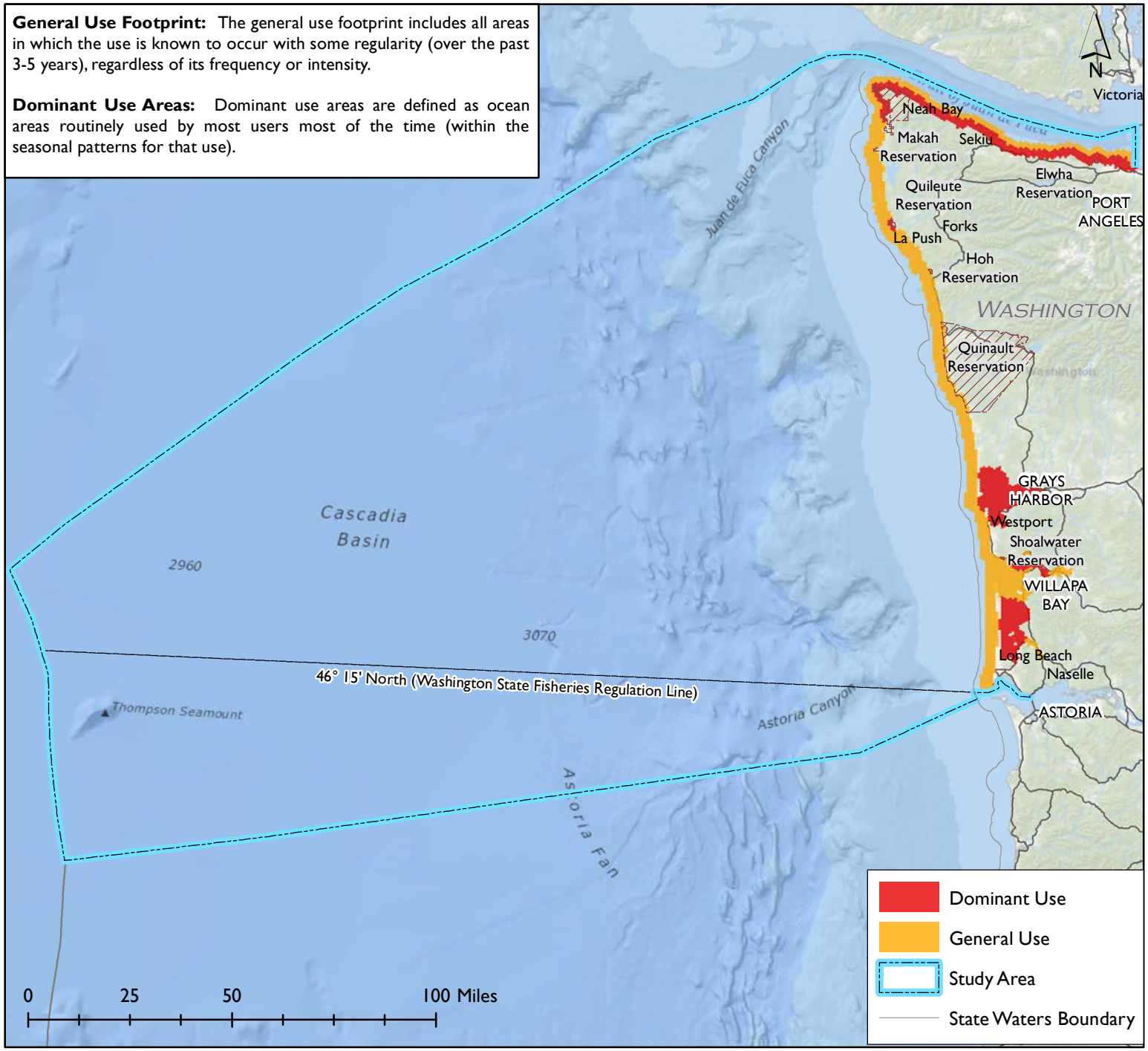

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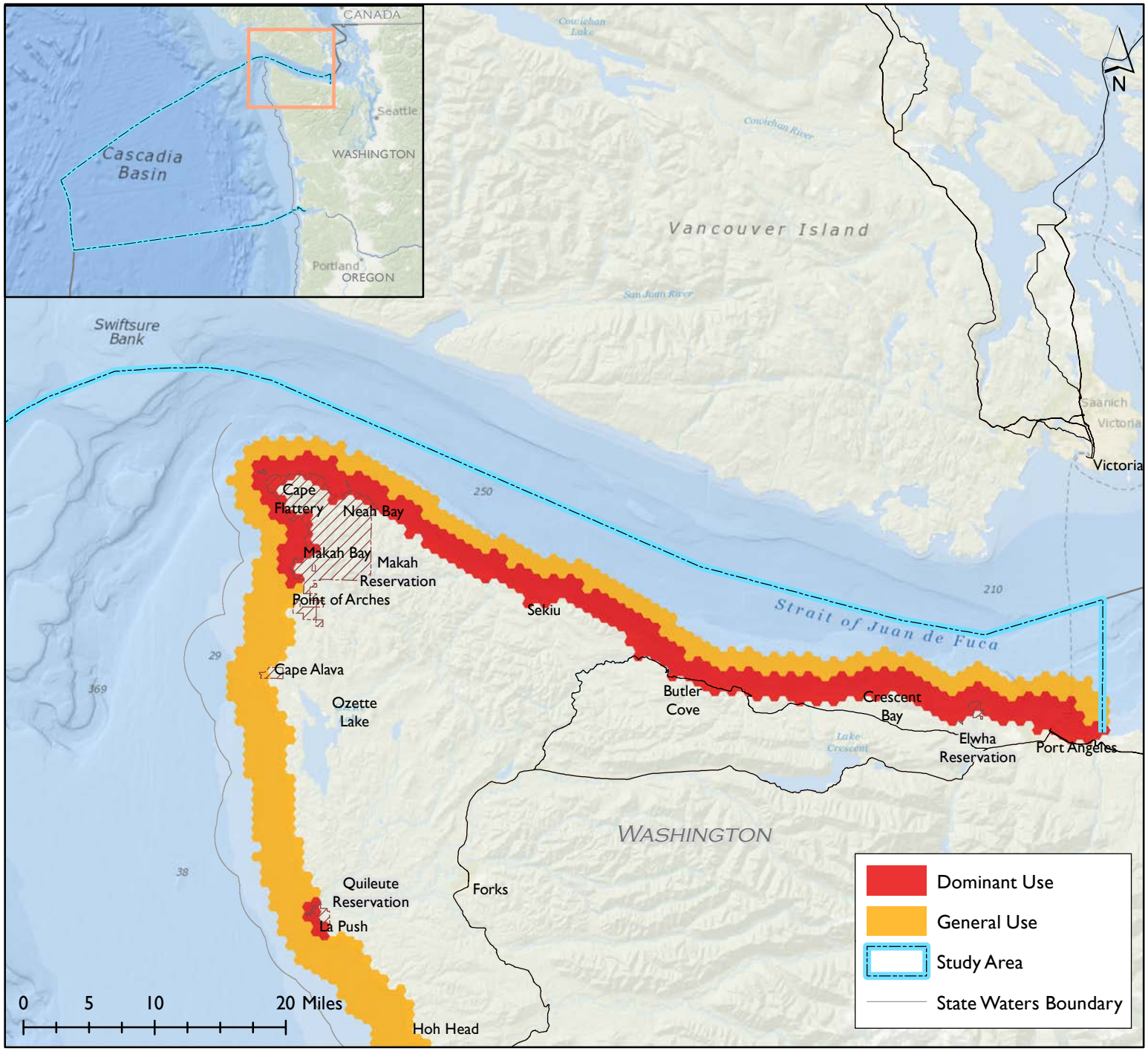

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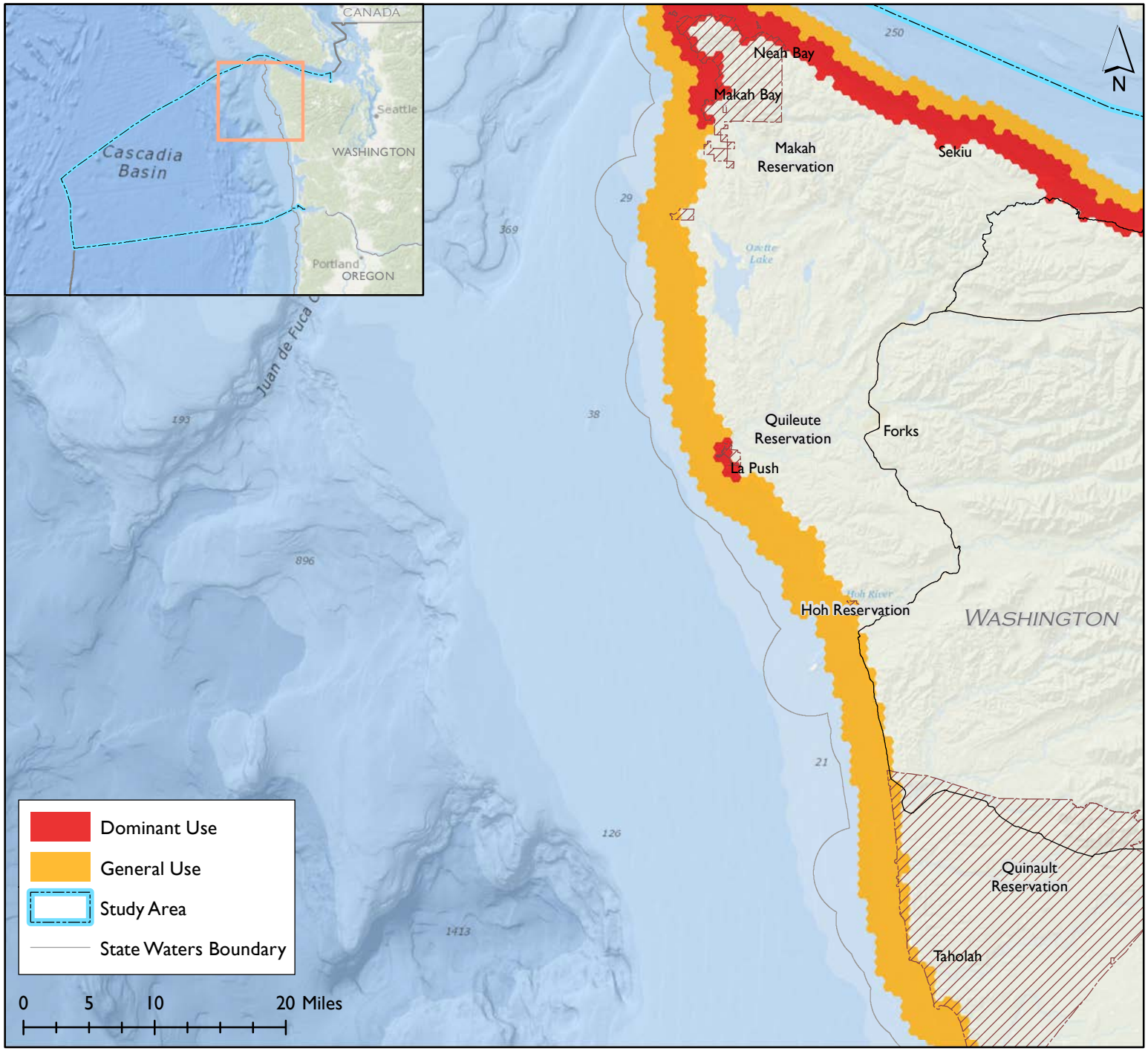

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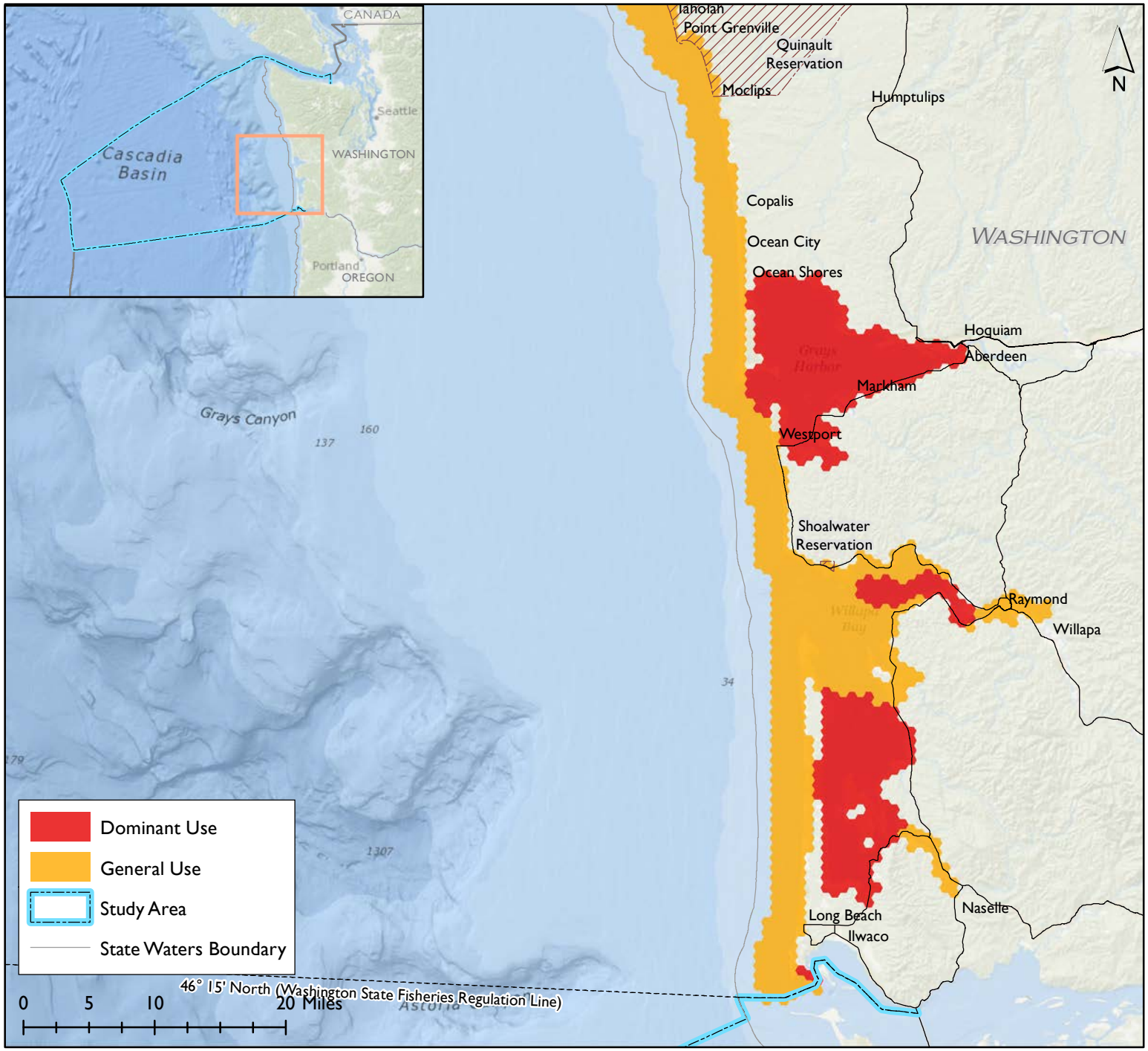

THE WASHINGTON OCEAN USES ATLAS

Participatory ocean use mapping to inform marine spatial planning in Washington's marine waters

Permanent Research Areas

Includes:
Sites, transects, and monitoring areas where routine research or monitoring is conducted

Excludes:
Motorized Boating, Commercial Shipping

Use Notes:
Permanent research sites are common all along the coast throughout the study area. This includes research sites that focus on mammal and seabird counts, erosion monitoring, sediment accretion, harmful algal blooms, shellfish populations, and dead bird surveys. Research moorings, naval research areas, oceanographic monitoring buoys and fishery survey tracts are also present. In recent years, more research has focused on the monitoring and removal of marine debris. The Washington Dept. Fish and Wildlife have permanent transect areas on Long Beach peninsula and other coastal razor clam harvesting beaches.

General Use Footprint: The general use footprint includes all areas in which the use is known to occur with some regularity (over the past 3-5 years), regardless of its frequency or intensity.

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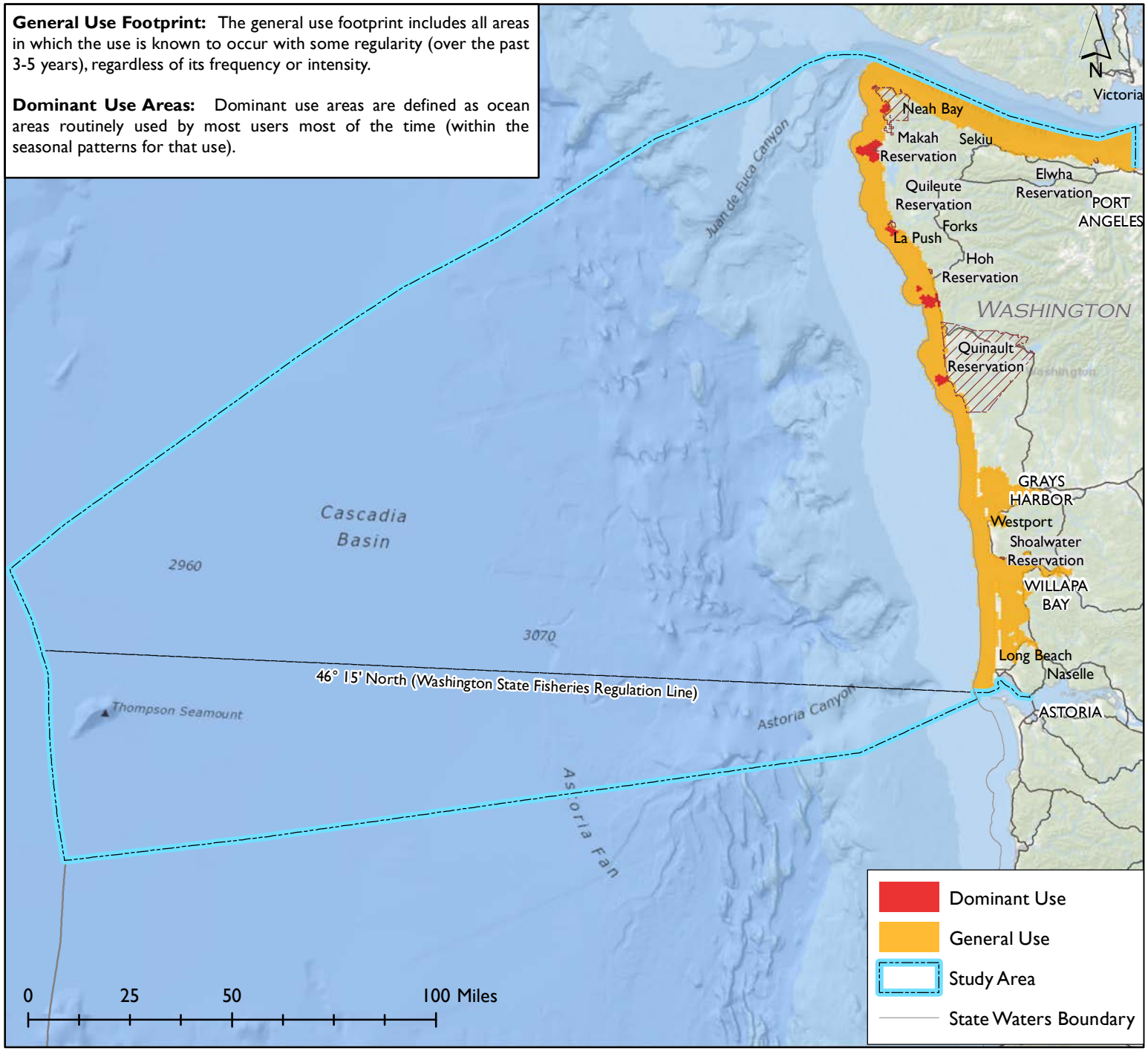

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BOEM
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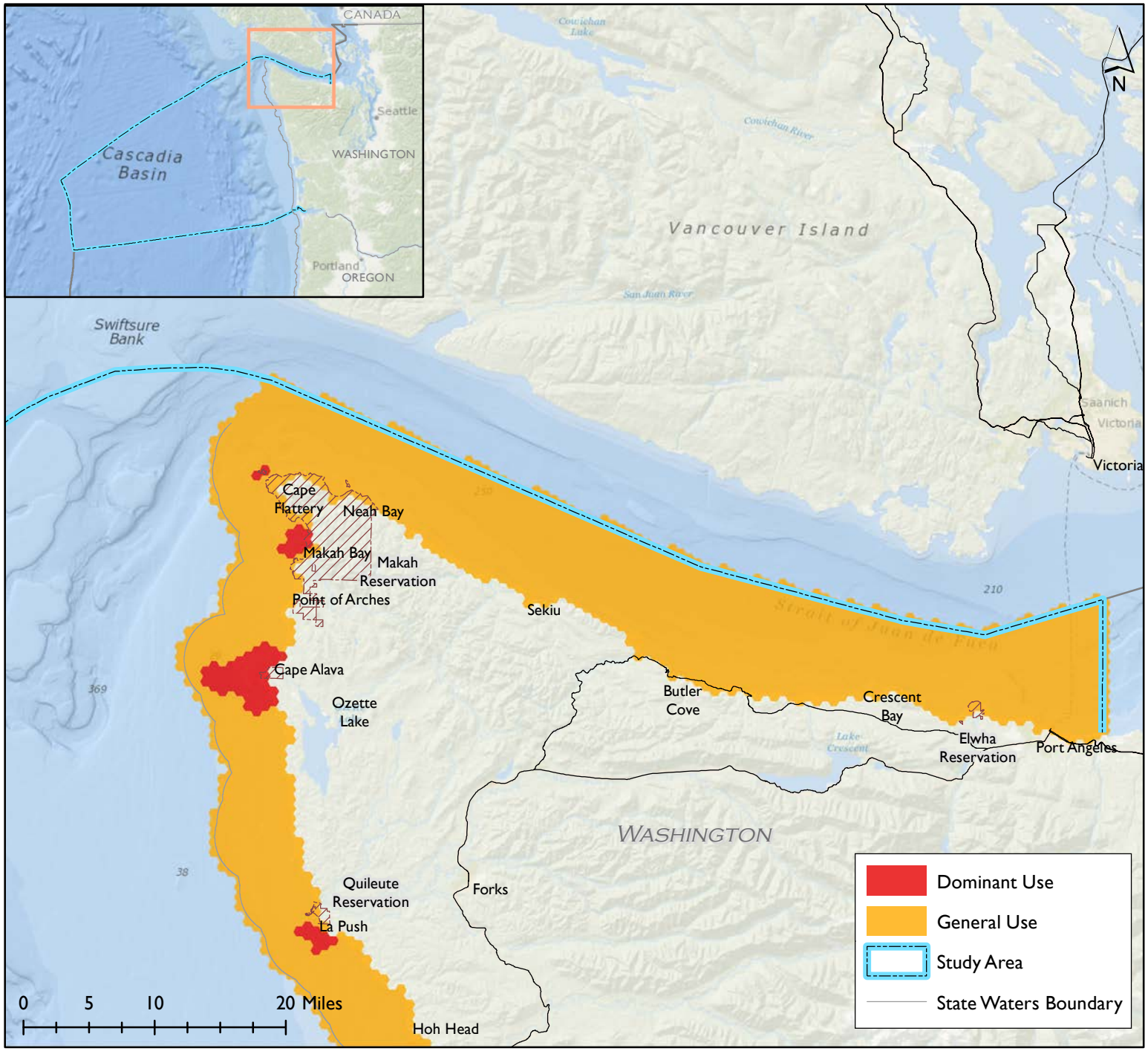

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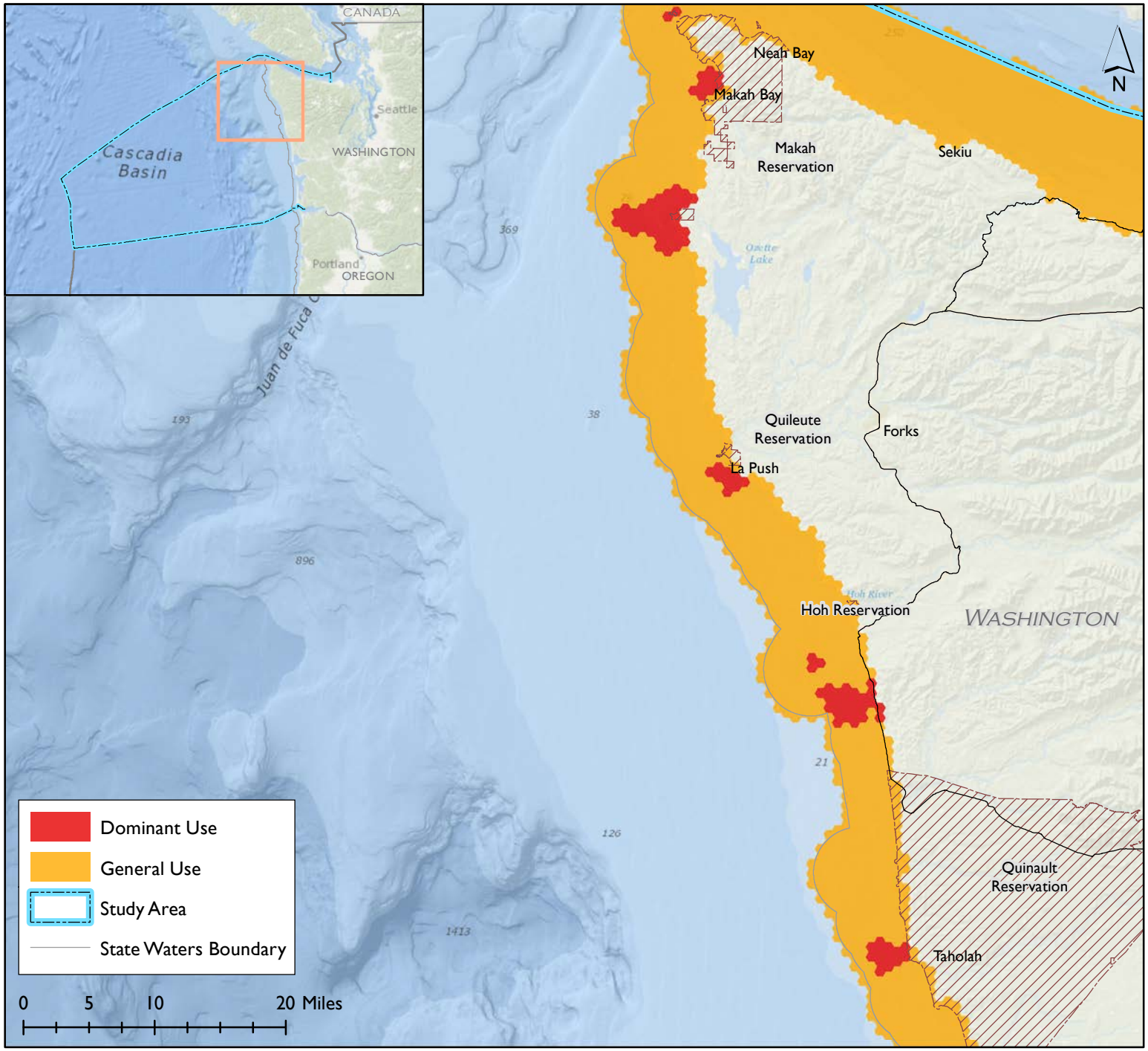

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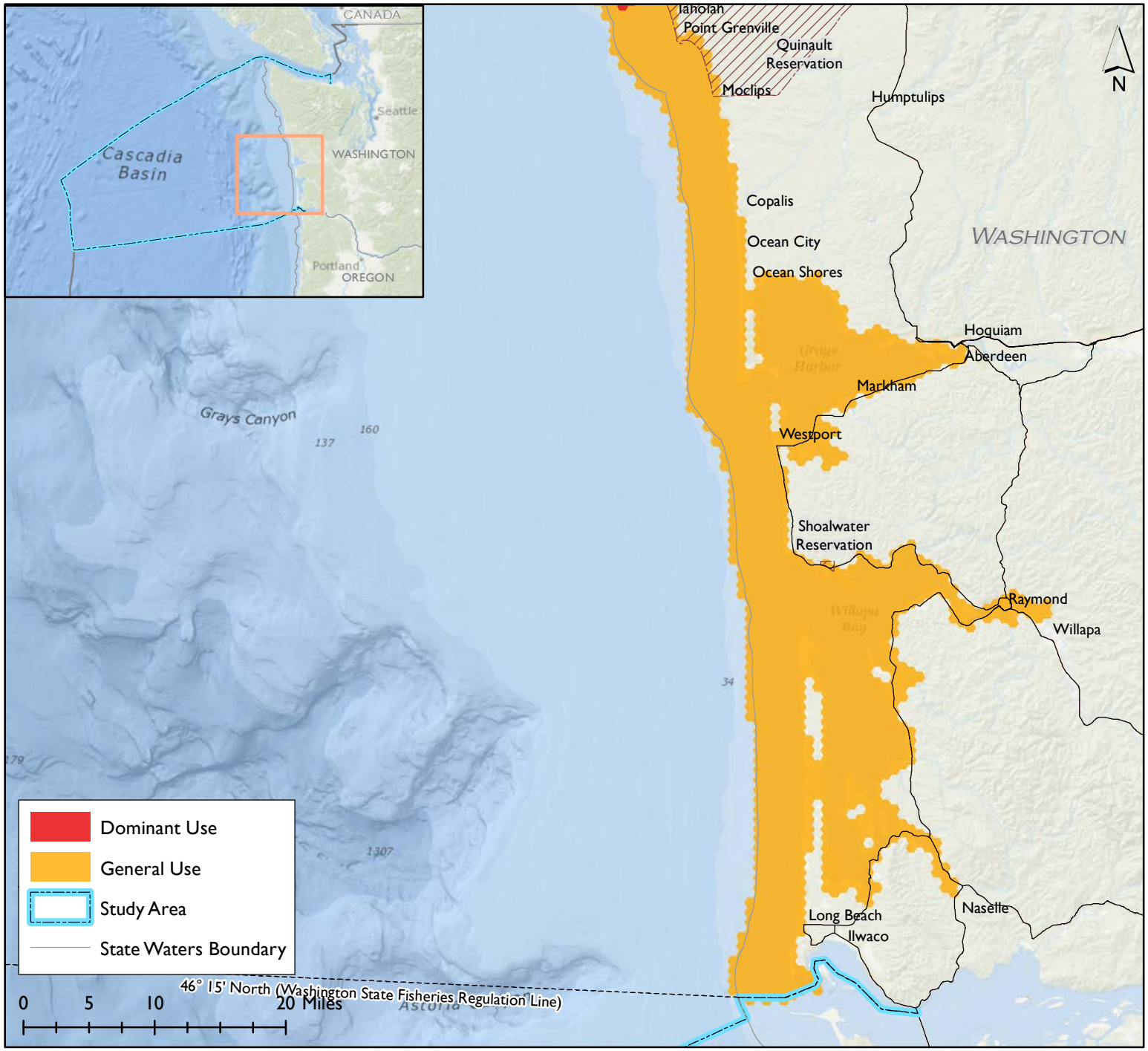

THE WASHINGTON OCEAN USES ATLAS

Participatory ocean use mapping to inform marine spatial planning in Washington's marine waters

Sailing

Includes:
Transit, mooring, motoring or anchoring by sailboats, including sailing kayaks and canoes

Excludes:
Motorized Boating, Paddling

Use Notes:
Sailing is most common in the Strait during the annual Swiftsure Yacht Race in May. Mostly transit sailing occurs along the outer coast with anchoring and refueling common in Neah Bay. Along the outer coast, the use tends to occur between 4-25 miles from shore except for boats coming into port. Some day use sailing occurs within the Strait, in Willapa Bay and around Port Angeles. There is an Annual regatta off Oysterville in Willapa bay, between the main channel and the high tide line.

General Use Footprint: The general use footprint includes all areas in which the use is known to occur with some regularity (over the past 3-5 years), regardless of its frequency or intensity.

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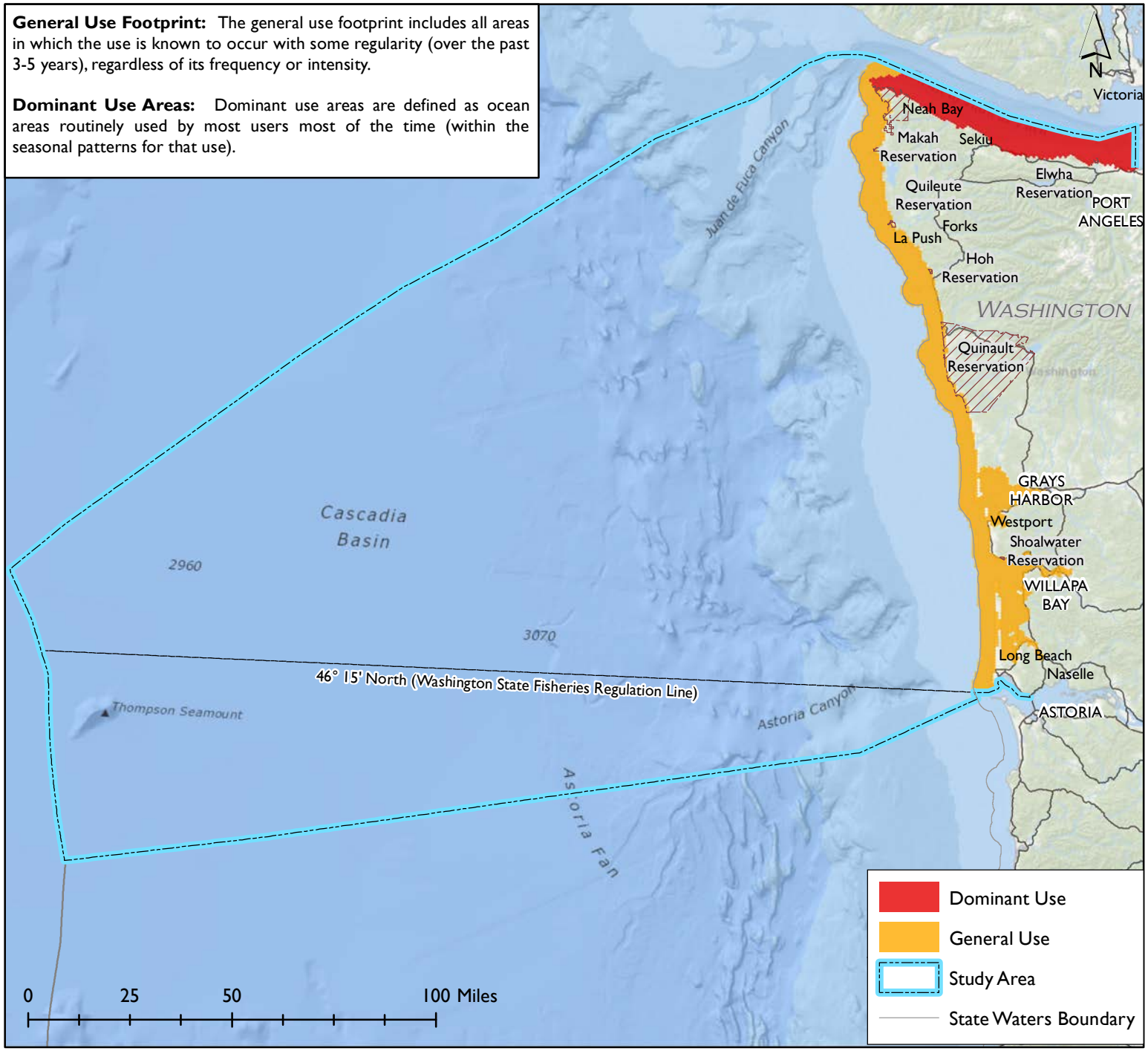

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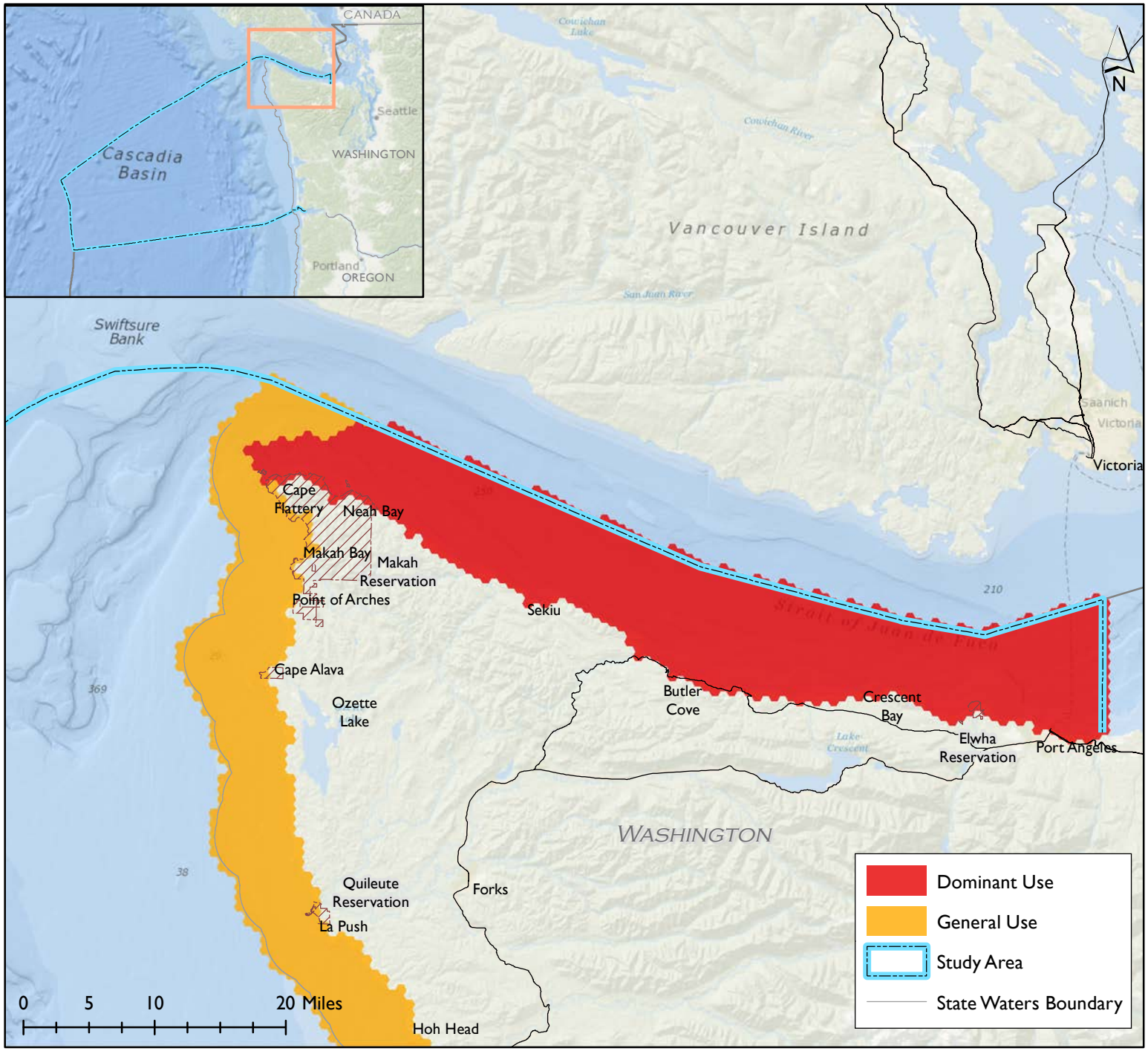

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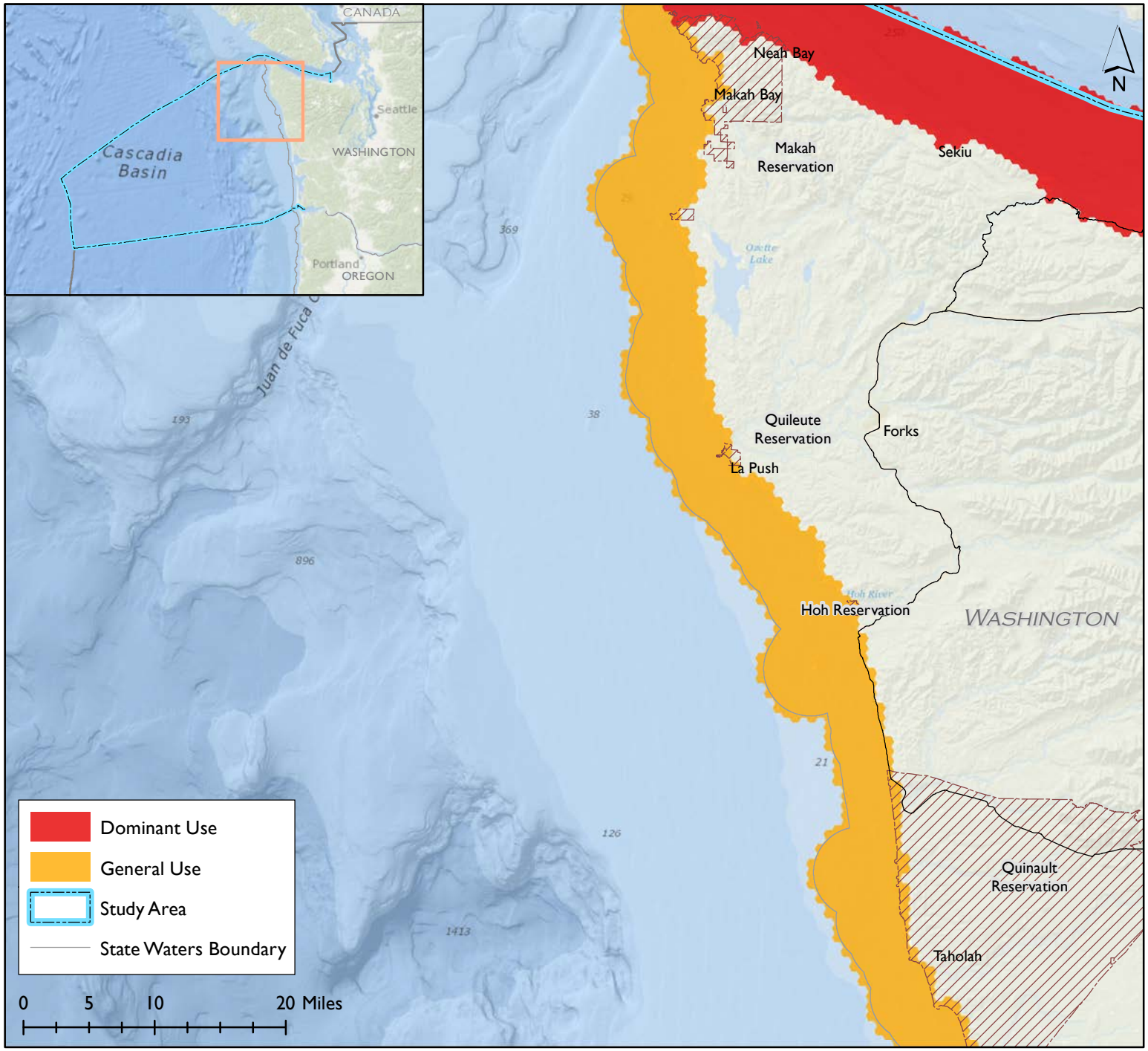

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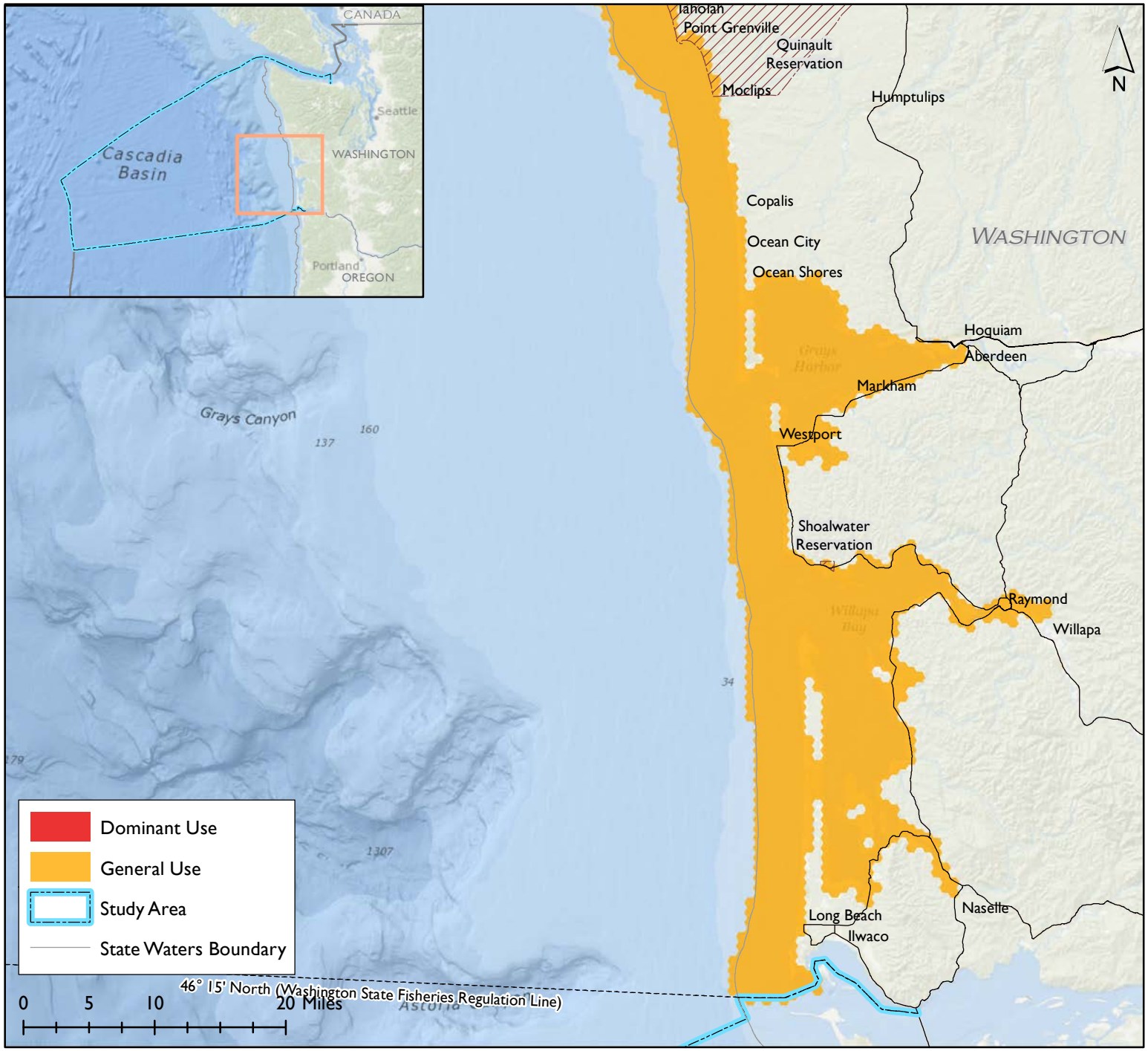

 Date: 12/18/2013

THE WASHINGTON OCEAN USES ATLAS

Participatory ocean use mapping to inform marine spatial planning in Washington's marine waters

BOEM
Bureau of Ocean Energy Management

SCUBA/Snorkeling

Includes:
SCUBA diving, surface supply diving, snorkeling (free diving)

Excludes:
Swimming, Dive Fishing

Use Notes:
SCUBA occurs most commonly in and around the kelp beds near Neah Bay and along the Strait of Juan de Fuca at depths of 100 feet or less. Dominant use occurs from late summer into winter and focuses on shallower areas less than 60 feet. This use is not common on the outer coast with the exception of research or salvage purposes.

General Use Footprint: The general use footprint includes all areas in which the use is known to occur with some regularity (over the past 3-5 years), regardless of its frequency or intensity.

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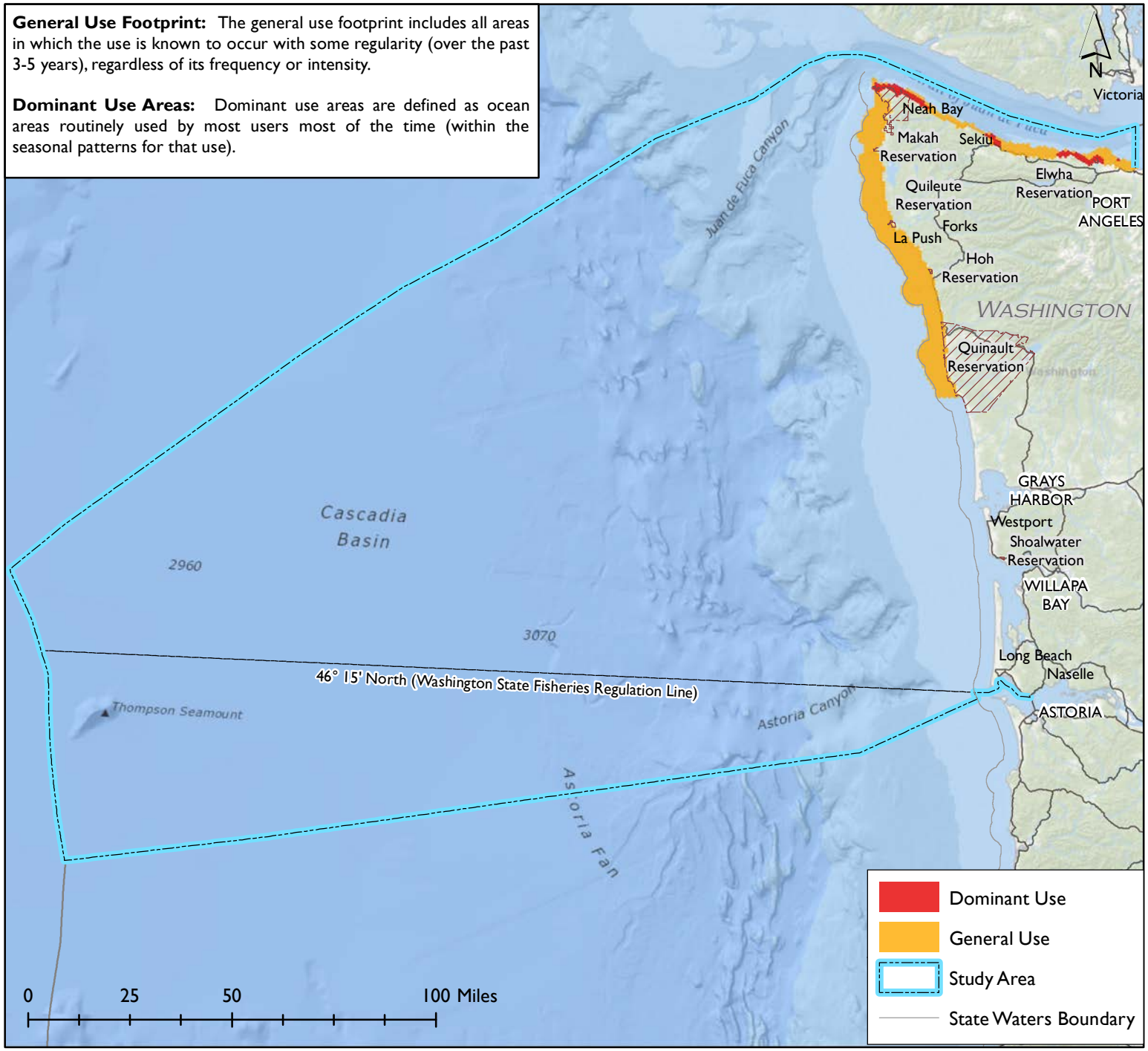

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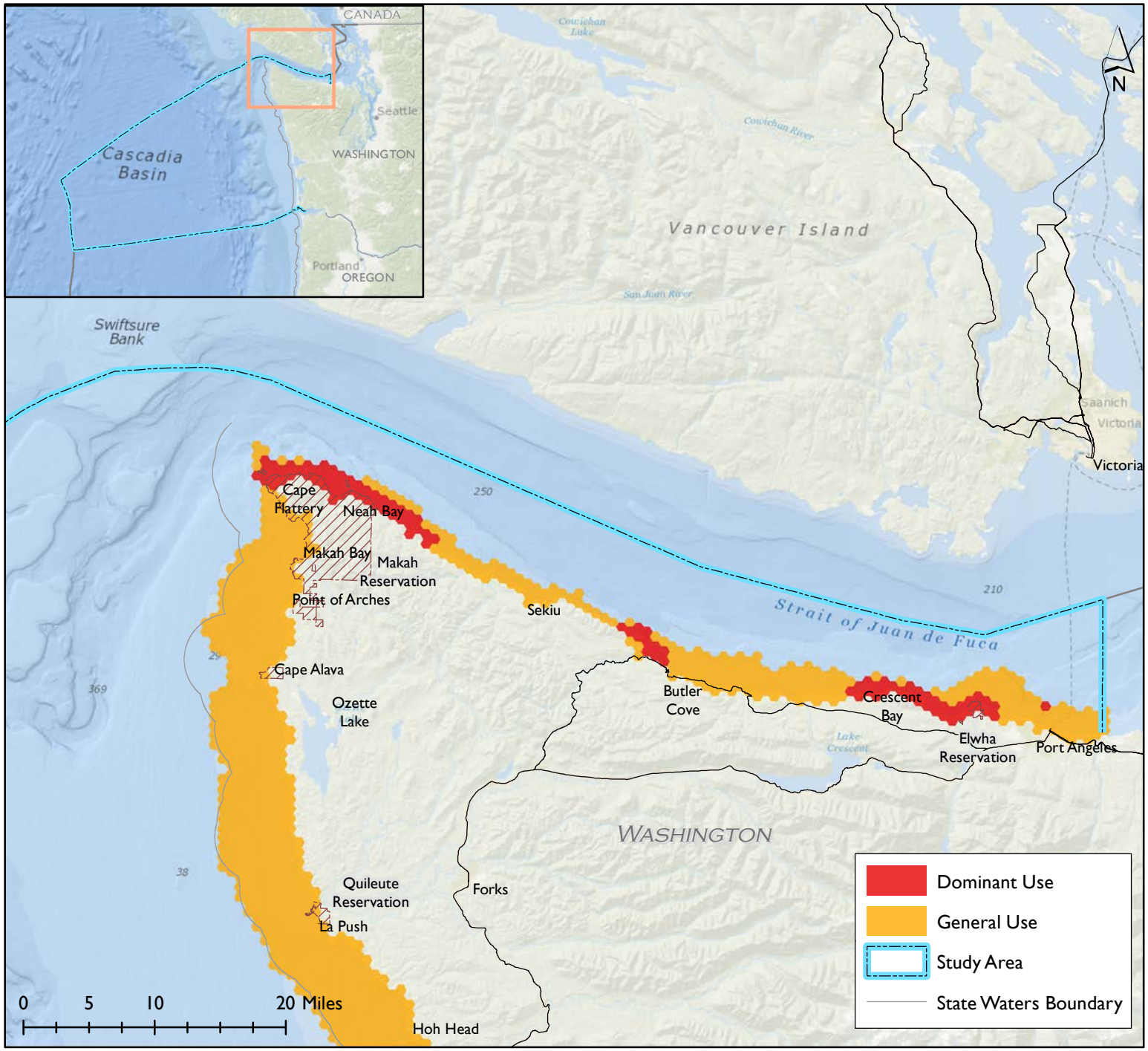

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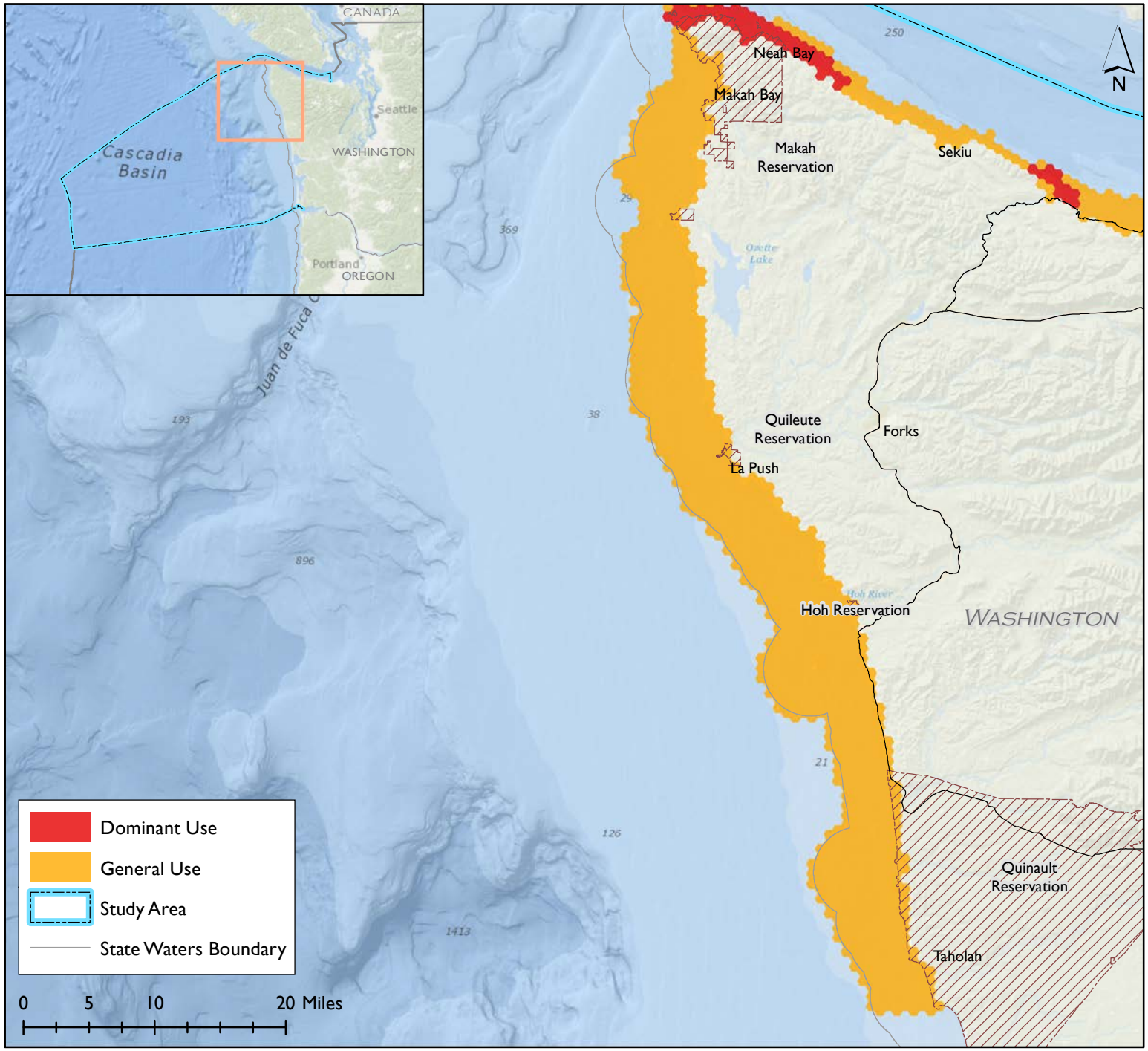

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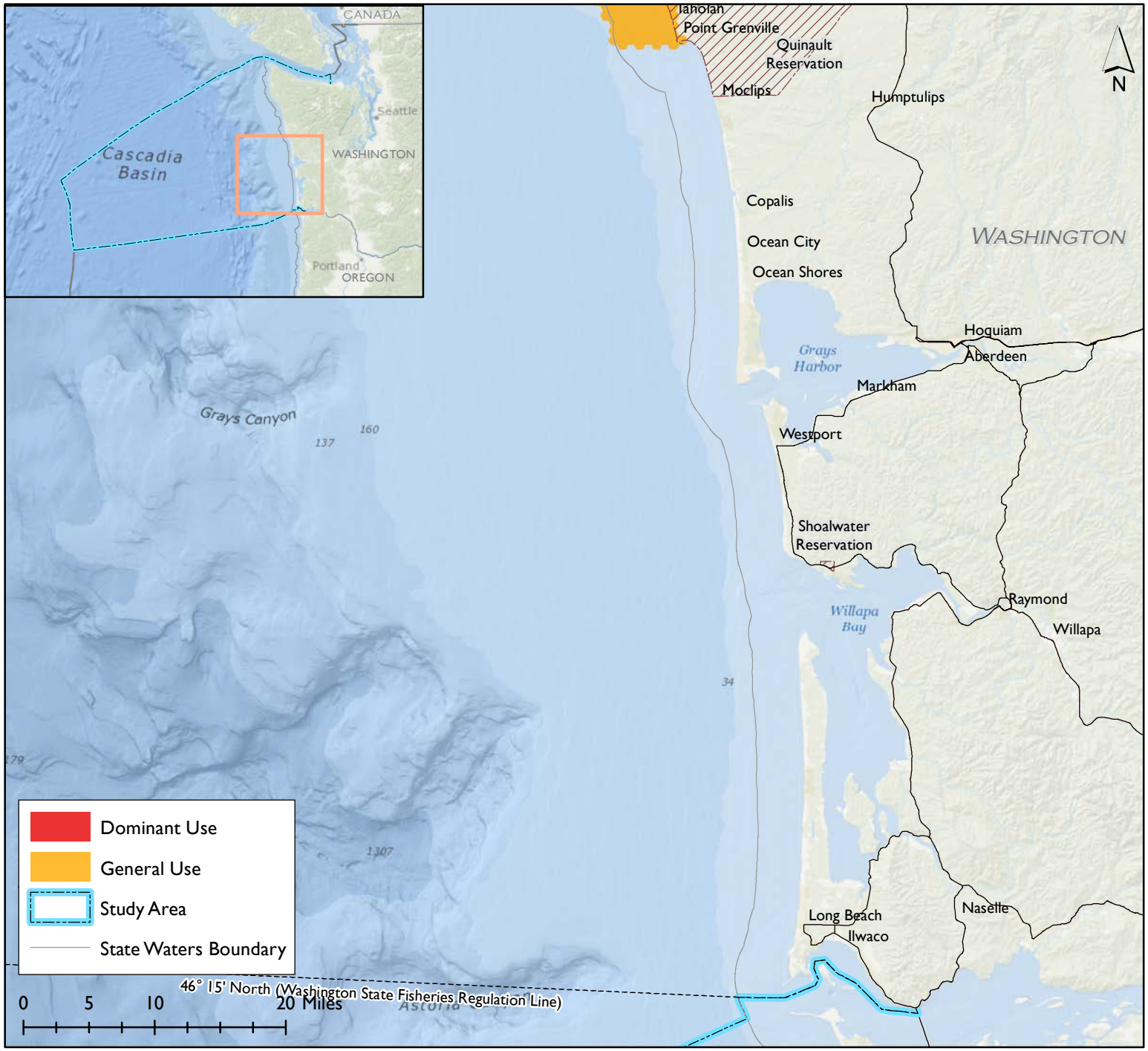

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BOEM Bureau of Ocean Energy Management

Surface Board Sports

Includes:
Tow-in and paddle-in surfing, wind-surfing, kite surfing, sailboarding

Excludes:
Paddling, SCUBA/Snorkeling, Swimming

Use Notes:
Surface board sports have shown an increase in activity in recent years with the introduction of stand up paddling (which now occurs in some harbors and bays). Overall the use is highly dependent on weather and ocean conditions, but does occur year-round. The use is influenced by coastal access, proximity to parking and location of surf breaks. The use tends to stay within one mile of the shoreline and extends into the mouth of the Columbia River.

General Use Footprint: The general use footprint includes all areas in which the use is known to occur with some regularity (over the past 3-5 years), regardless of its frequency or intensity.

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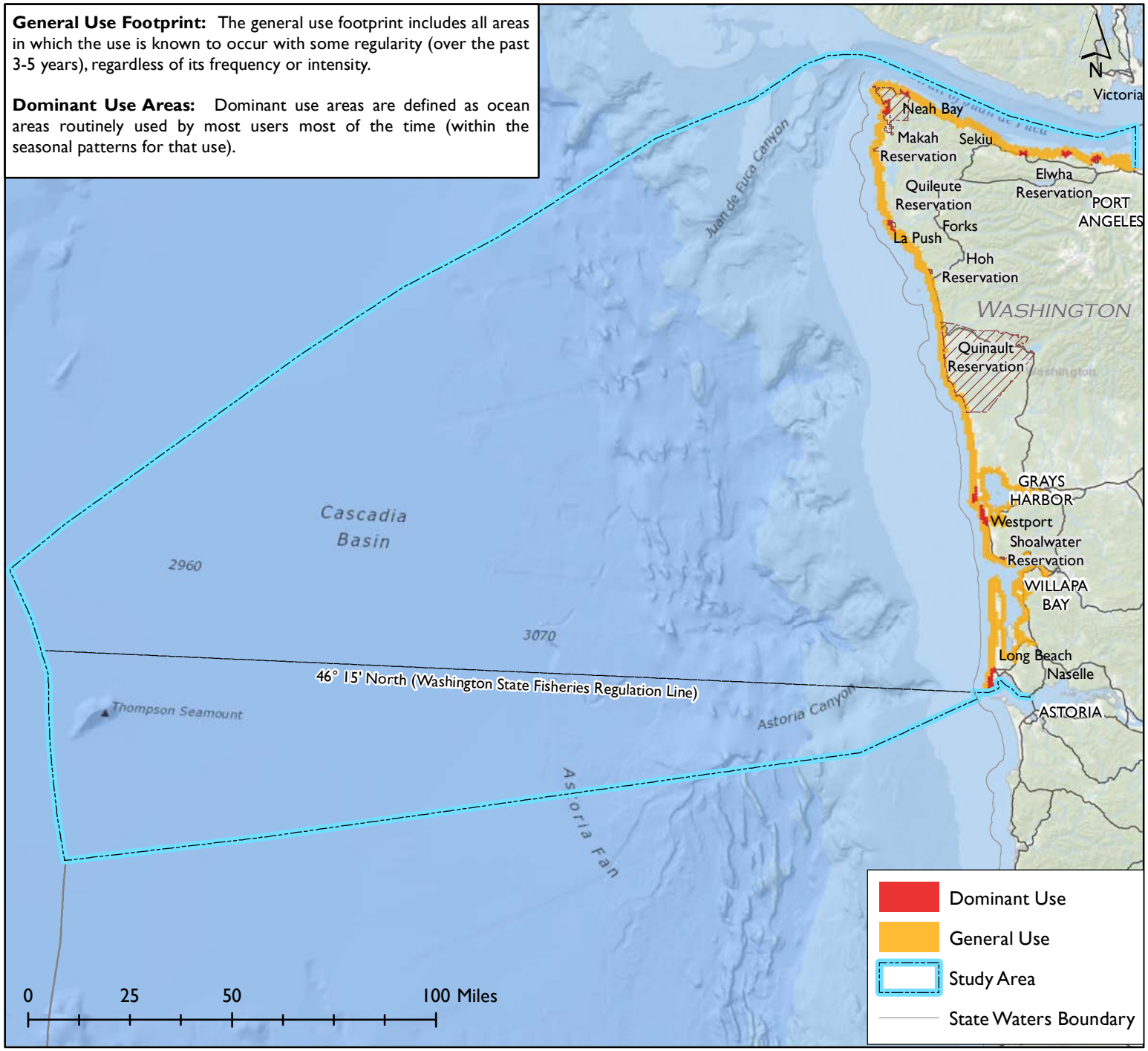

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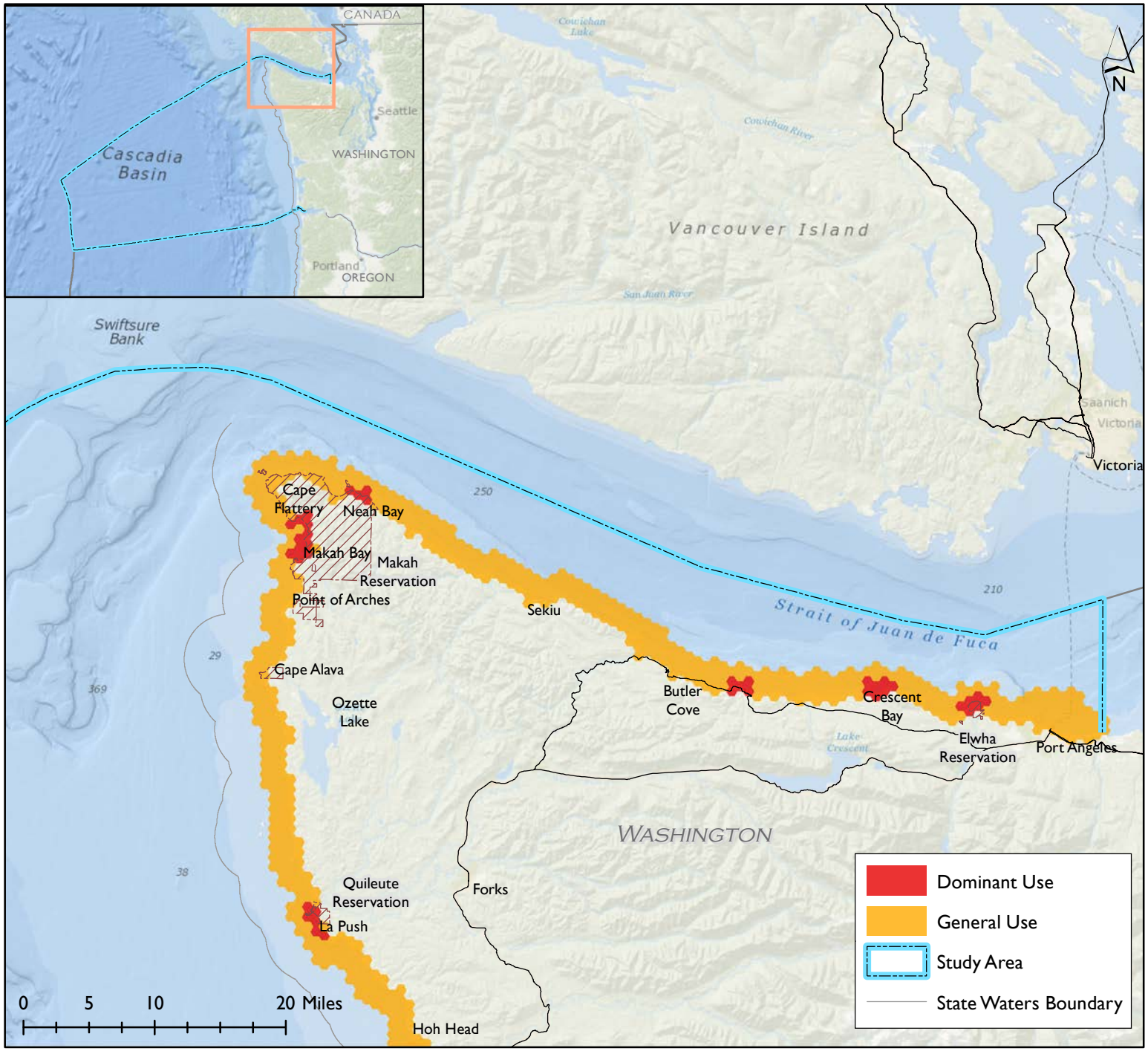

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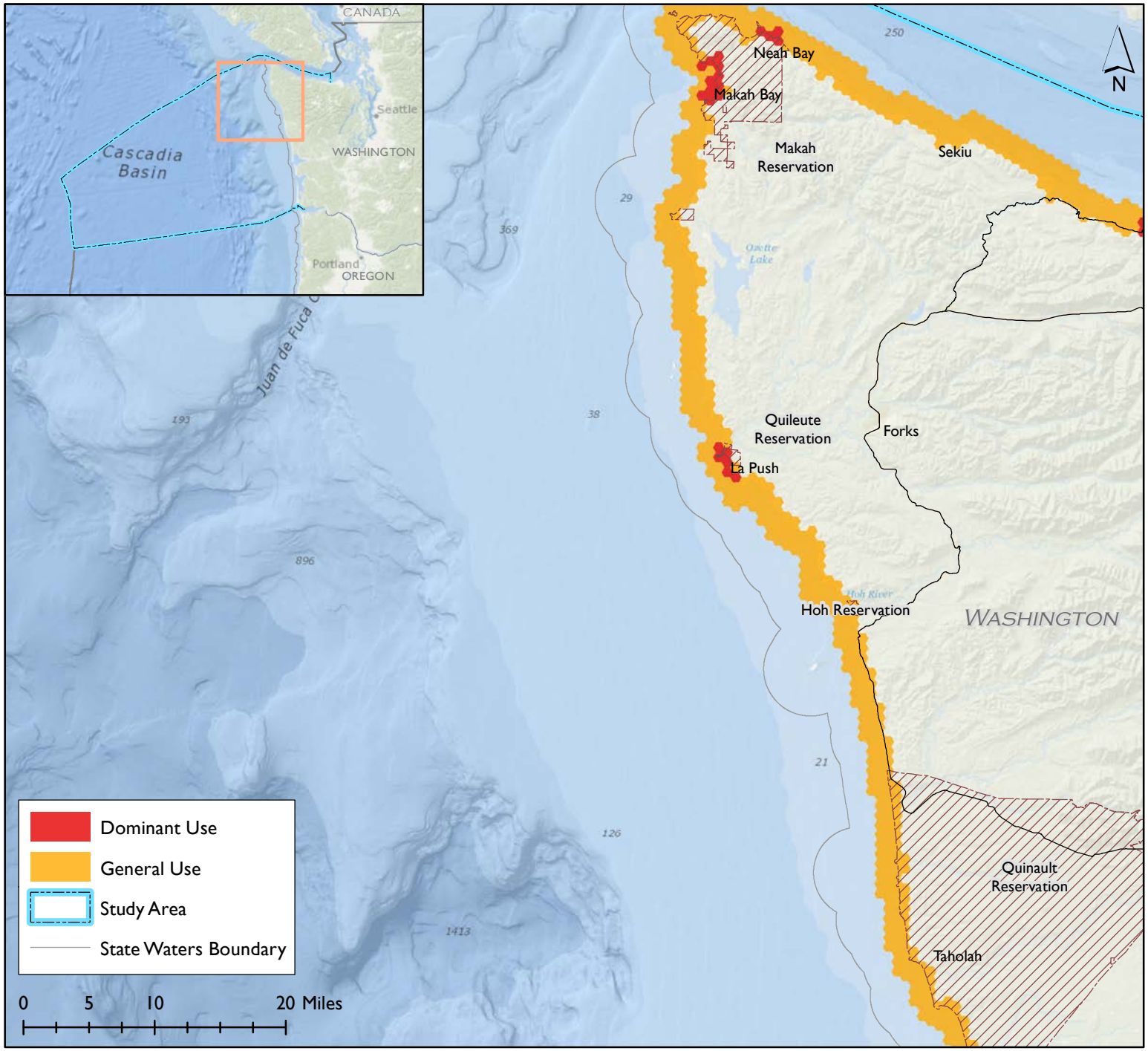

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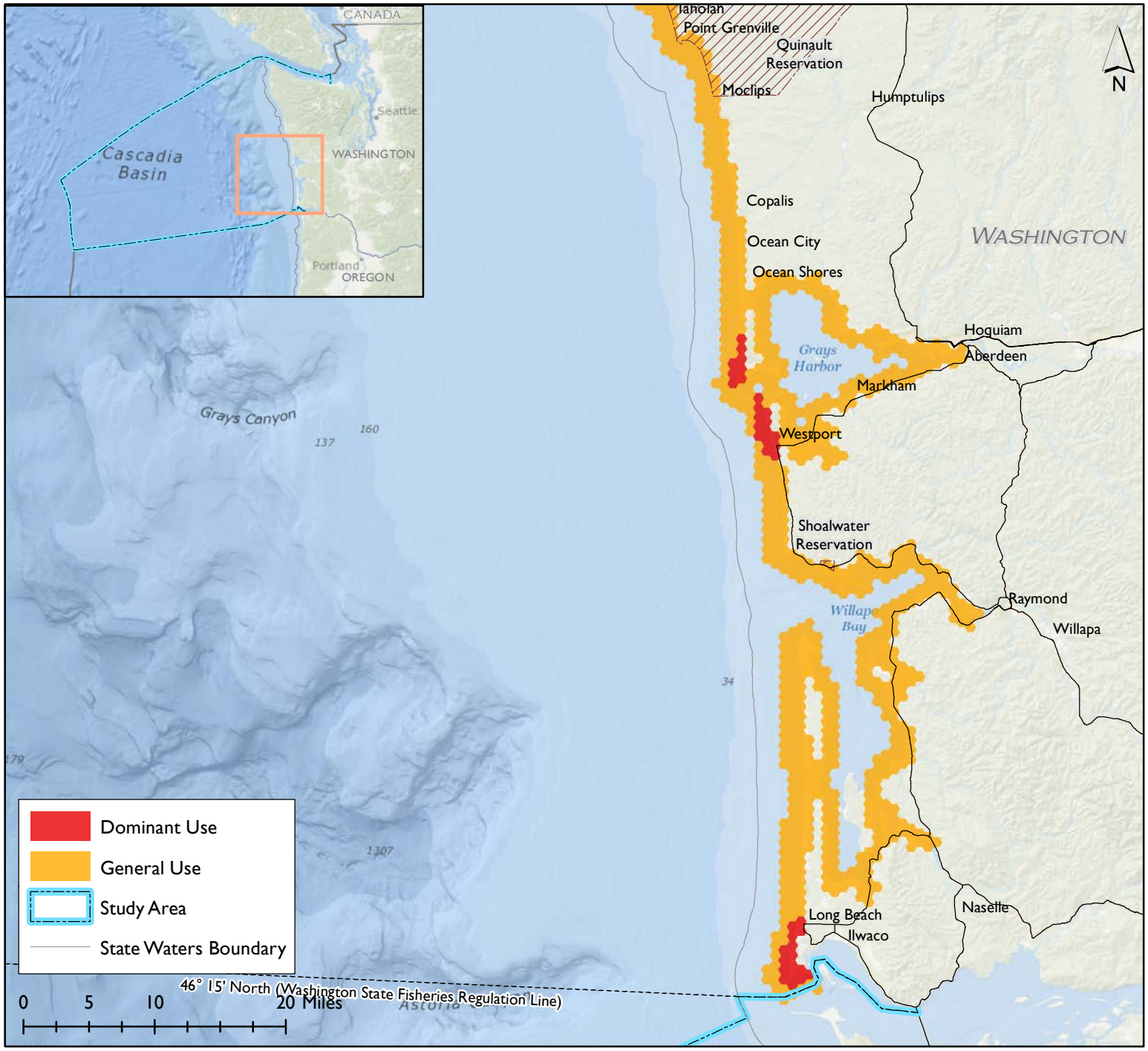

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THE WASHINGTON OCEAN USES ATLAS

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BOEM
Bureau of Ocean Energy Management

Swimming

Includes:
Short- and long-distance surface swimming and wading any distance from shore, body surfing

Excludes:
SCUBA/Snorkeling, Surface Board Sports

Use Notes:
Swimming occurs year-round throughout the study area, but is more common in summer. This use occurs predominantly along the sandy beaches, is generally confined to the nearshore (within approximately 100 yards of the tide line) and is highly dependent upon coastal access. The activity may be better defined as wading or playing in the surf zone, as it can be dangerous further from shore.

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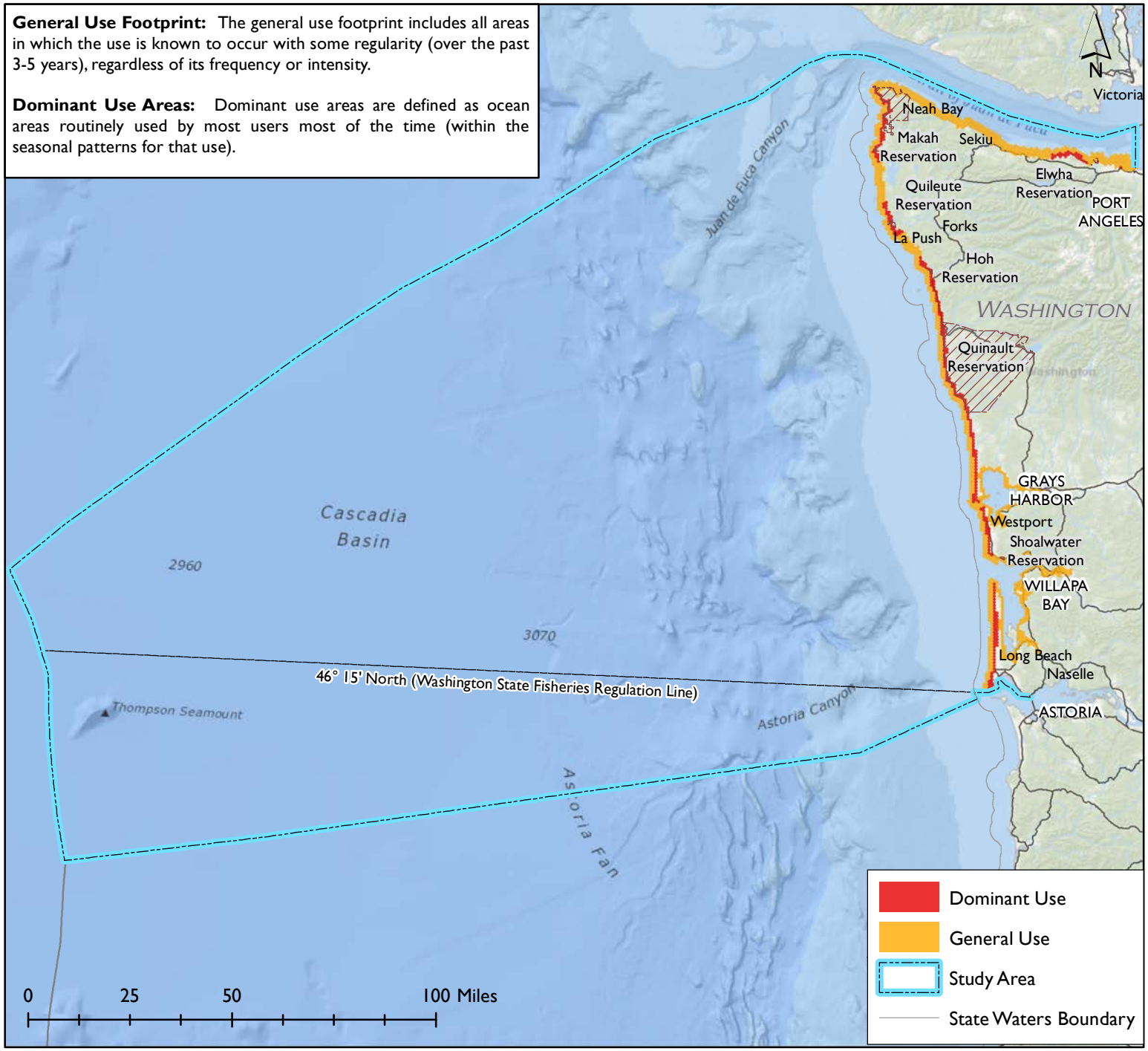

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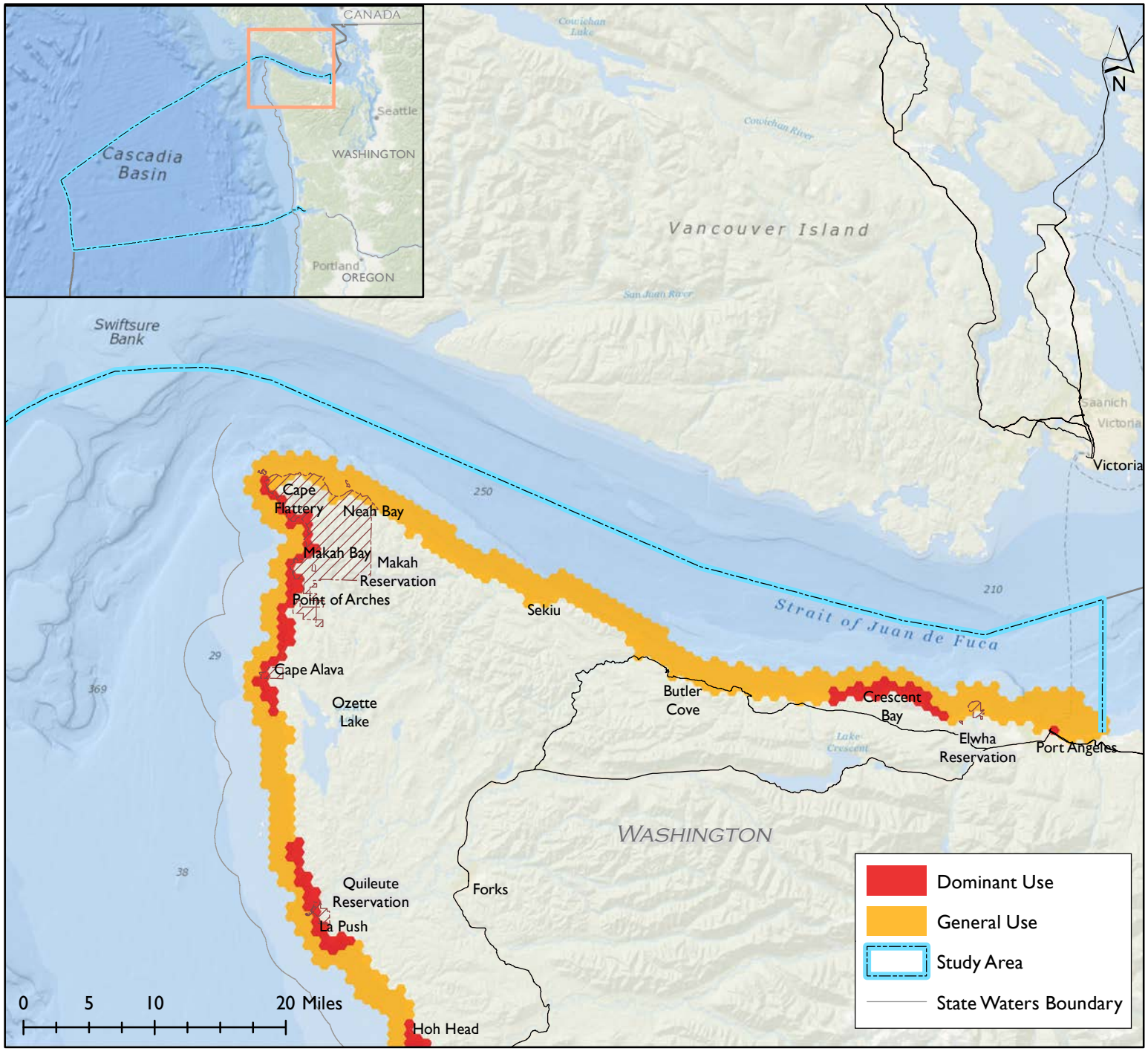

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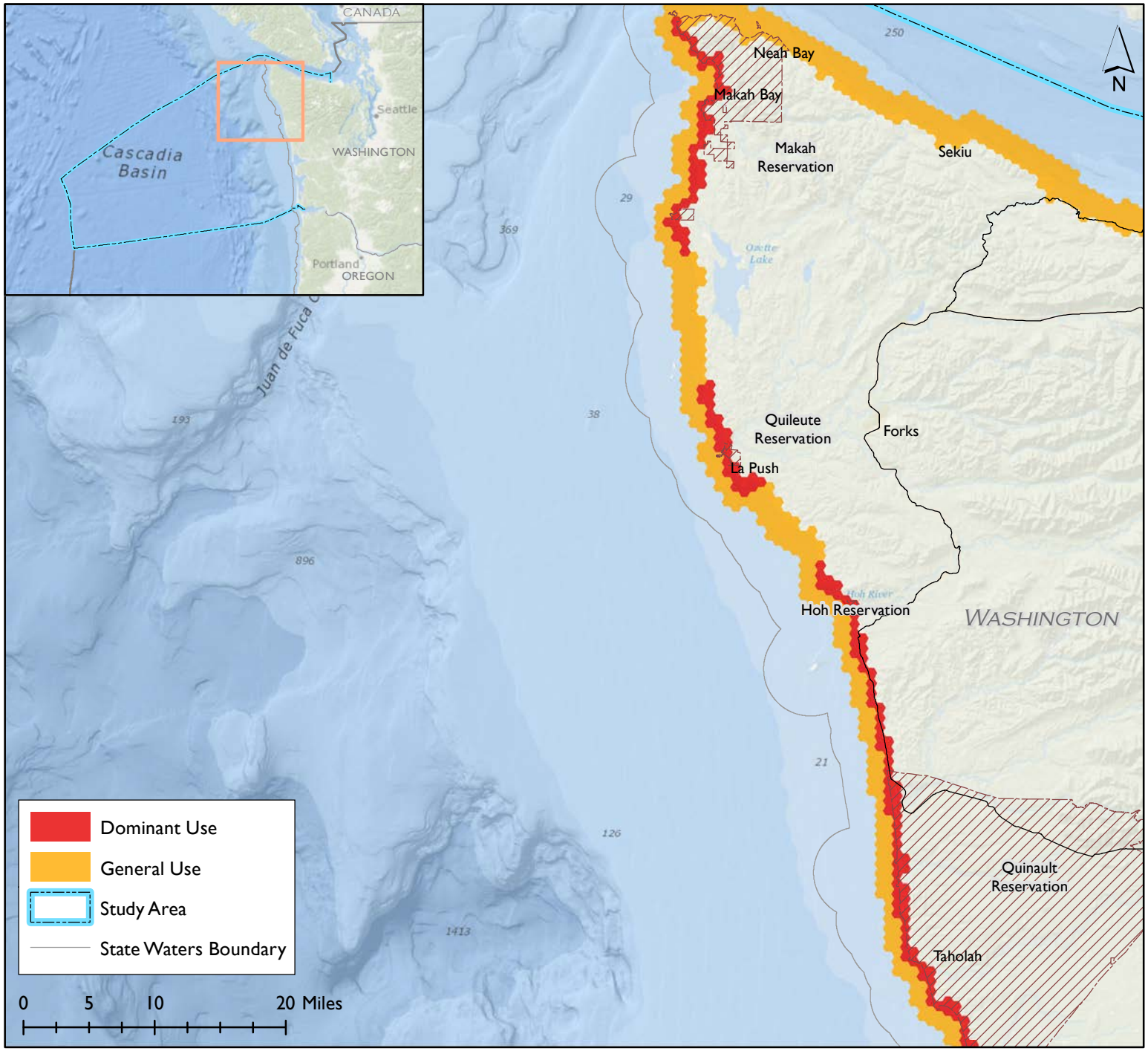

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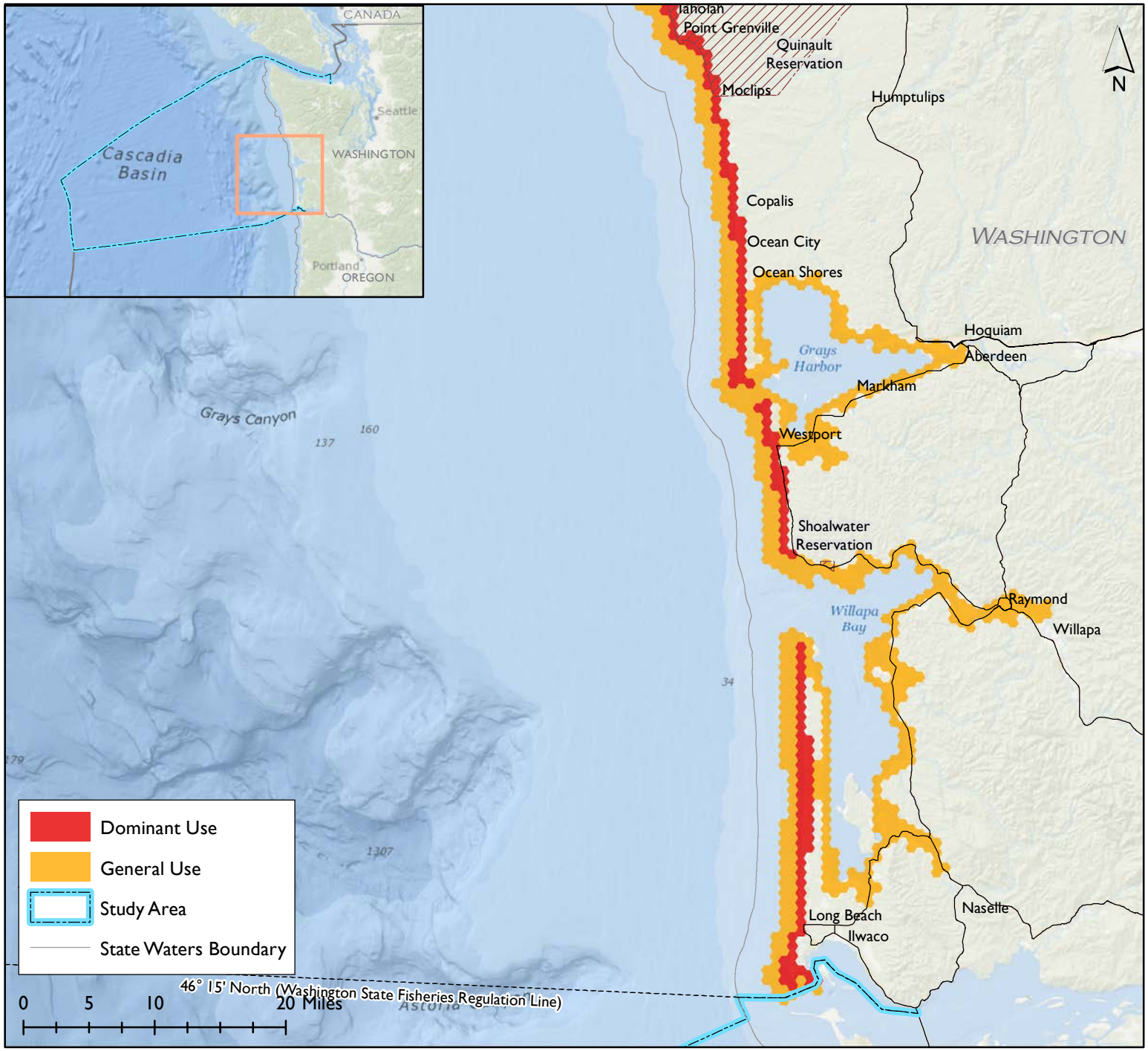

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THE WASHINGTON OCEAN USES ATLAS

Participatory ocean use mapping to inform marine spatial planning in Washington's marine waters

Tide Pooling

Includes:
Use of the intertidal zone between high and low tides for recreational, scientific or educational purposes

Excludes:
Harvesting from Shore, Shore Use

Use Notes:
Tide pooling is a year-round activity with increased use in the spring through the fall. Most dominant use occurs during minus tides. There is extensive public use of the tide pools in the Olympic National Park.

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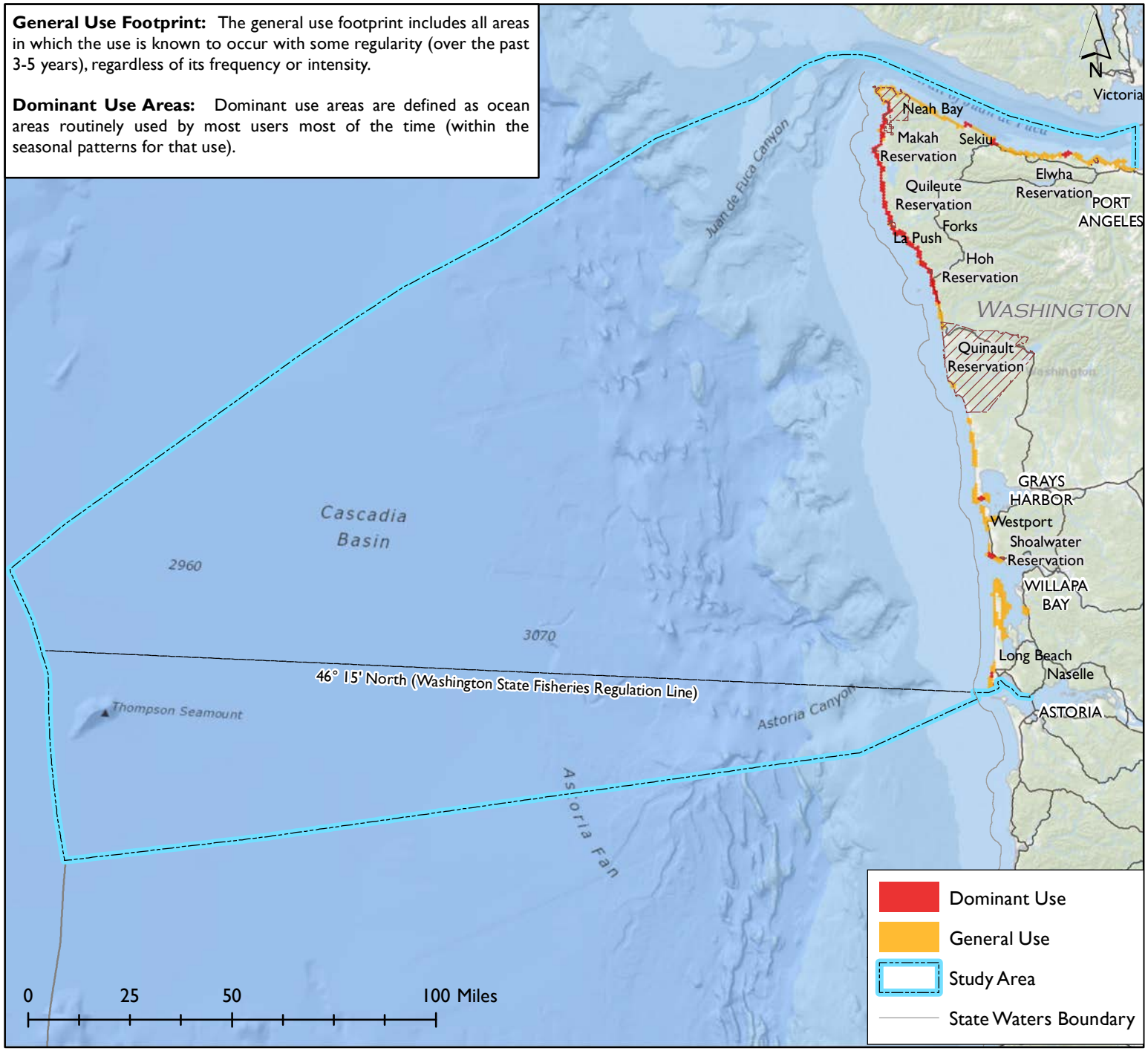

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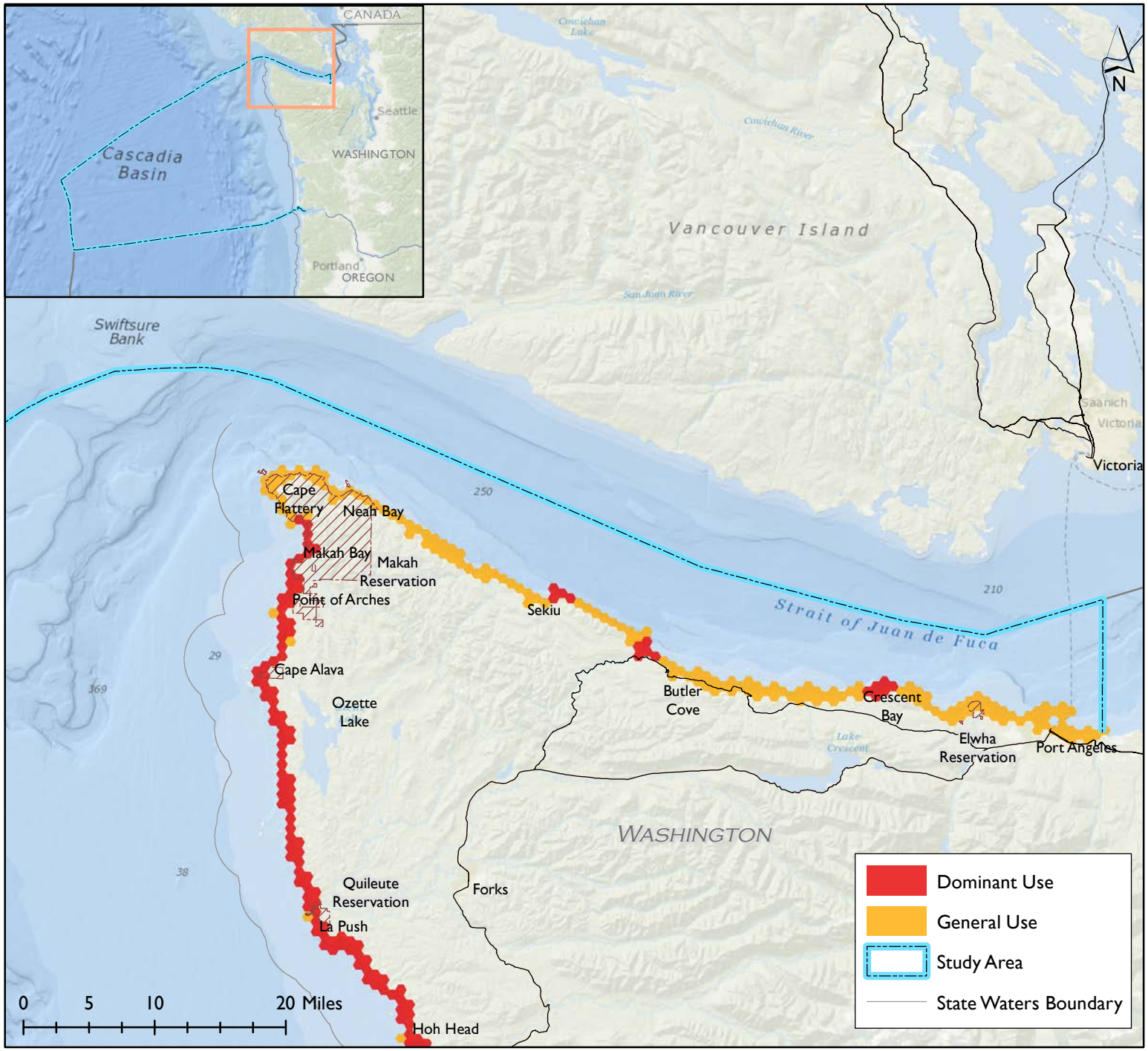

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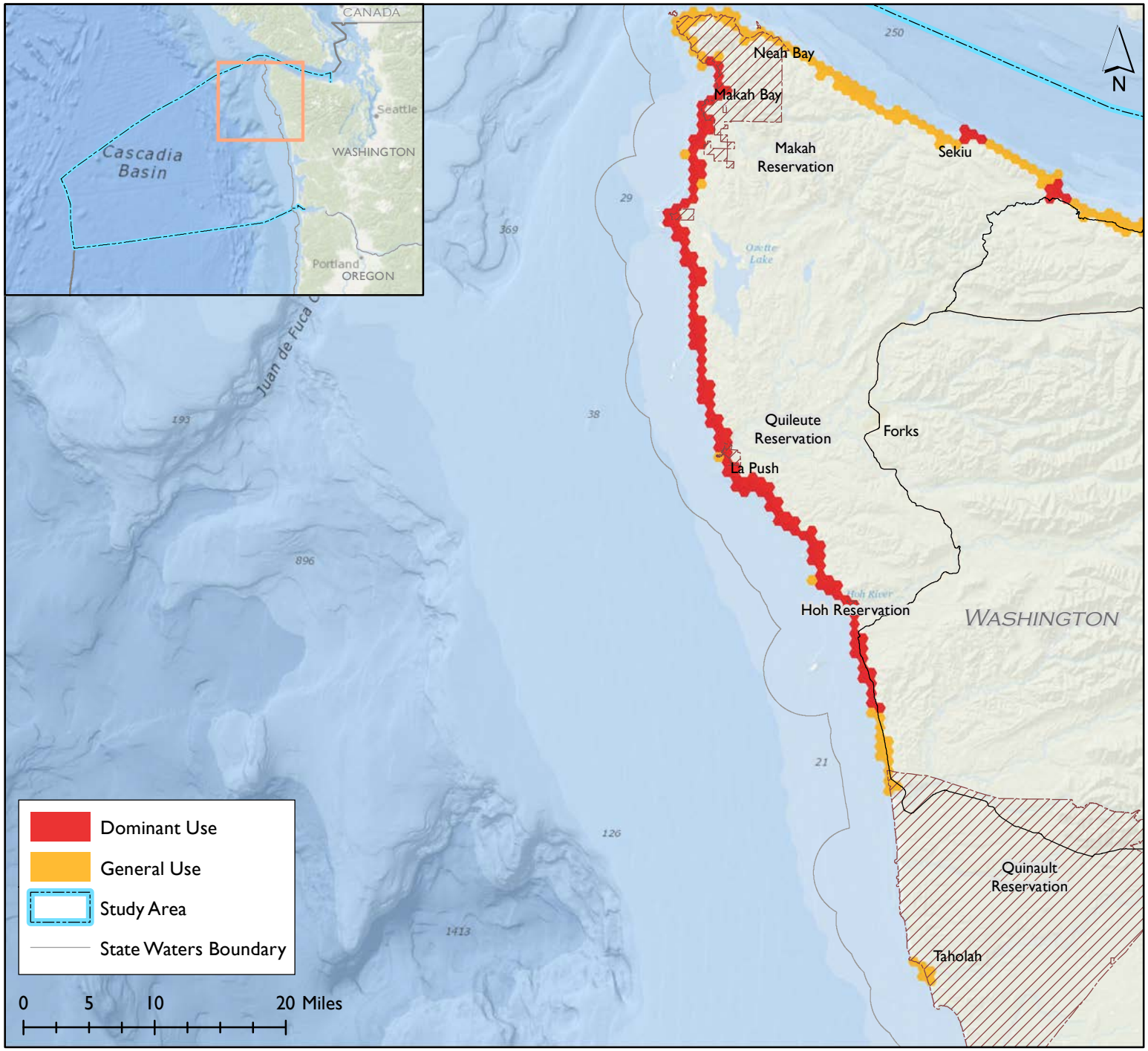

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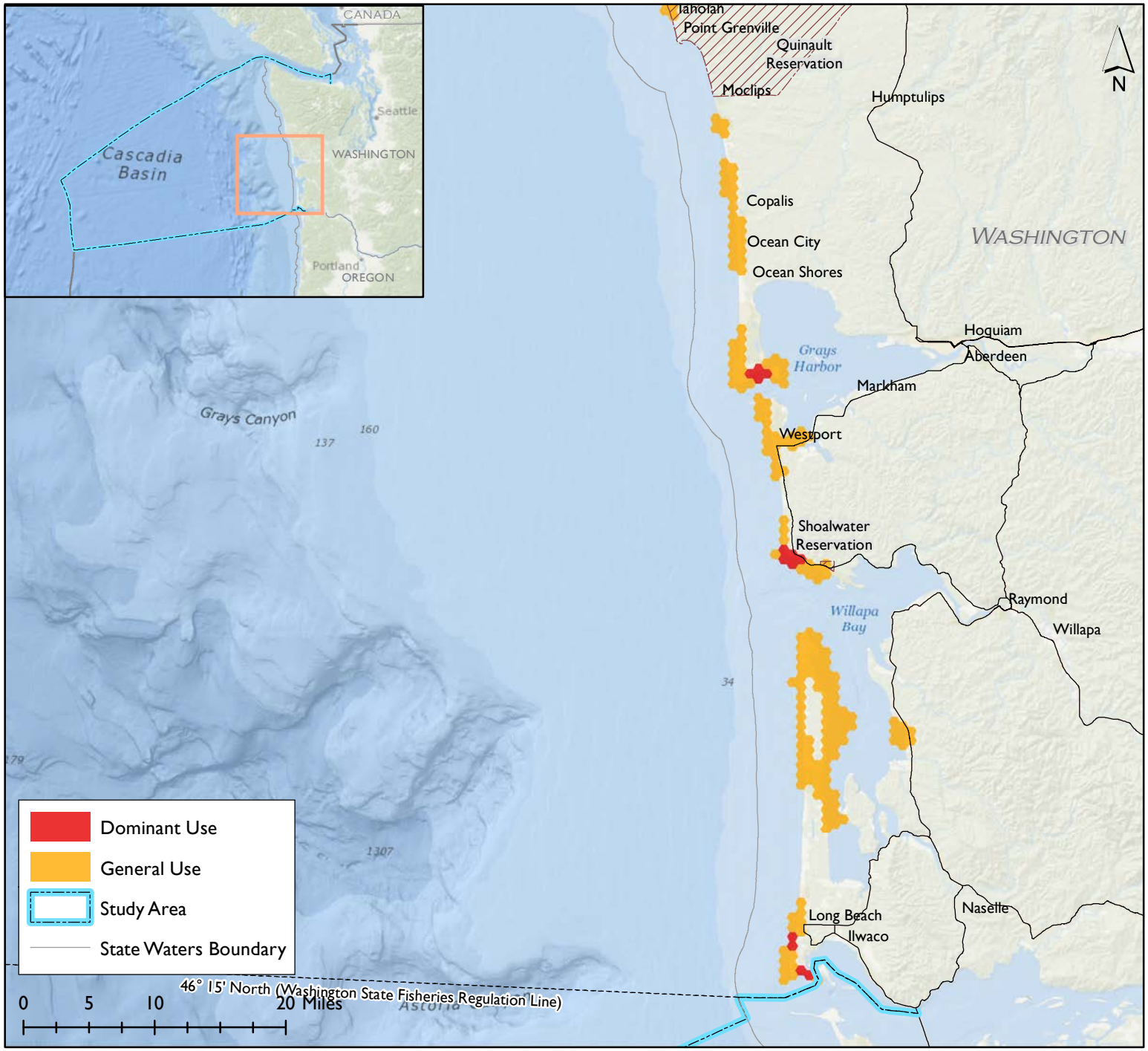

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Wildlife Viewing at Sea

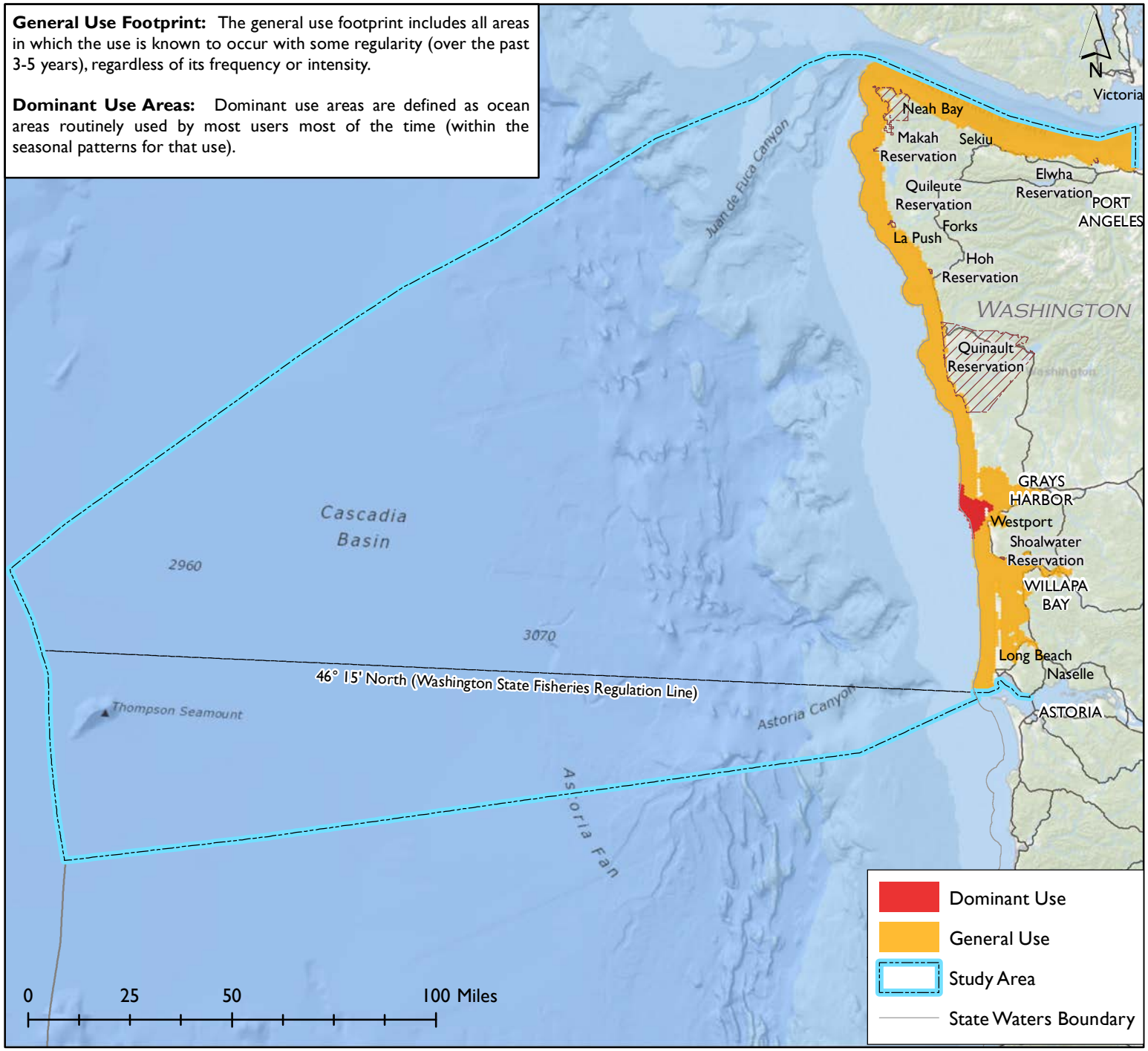
Includes:
Boat-based wildlife viewing at sea, usually on a commercial vessel

Excludes:
Incidental wildlife viewing from shore or while at sea pursuing other uses

Use Notes:
Wildlife viewing at sea has shown some increase in recent years with increase in eco-tourism. Use tends to be seasonal, following seabird and whale migration patterns. Use is most dominant out of Westport and Neah Bay, but there are also wildlife boat tours out of Port Angeles, Ilwaco and LaPush.

General Use Footprint: The general use footprint includes all areas in which the use is known to occur with some regularity (over the past 3-5 years), regardless of its frequency or intensity.

Dominant Use Areas: Dominant use areas are defined as ocean areas routinely used by most users most of the time (within the seasonal patterns for that use).



 Date: 12/18/2013

THE WASHINGTON OCEAN USES ATLAS

Participatory ocean use mapping to inform marine spatial planning in Washington's marine waters

BOEM Bureau of Ocean Energy Management

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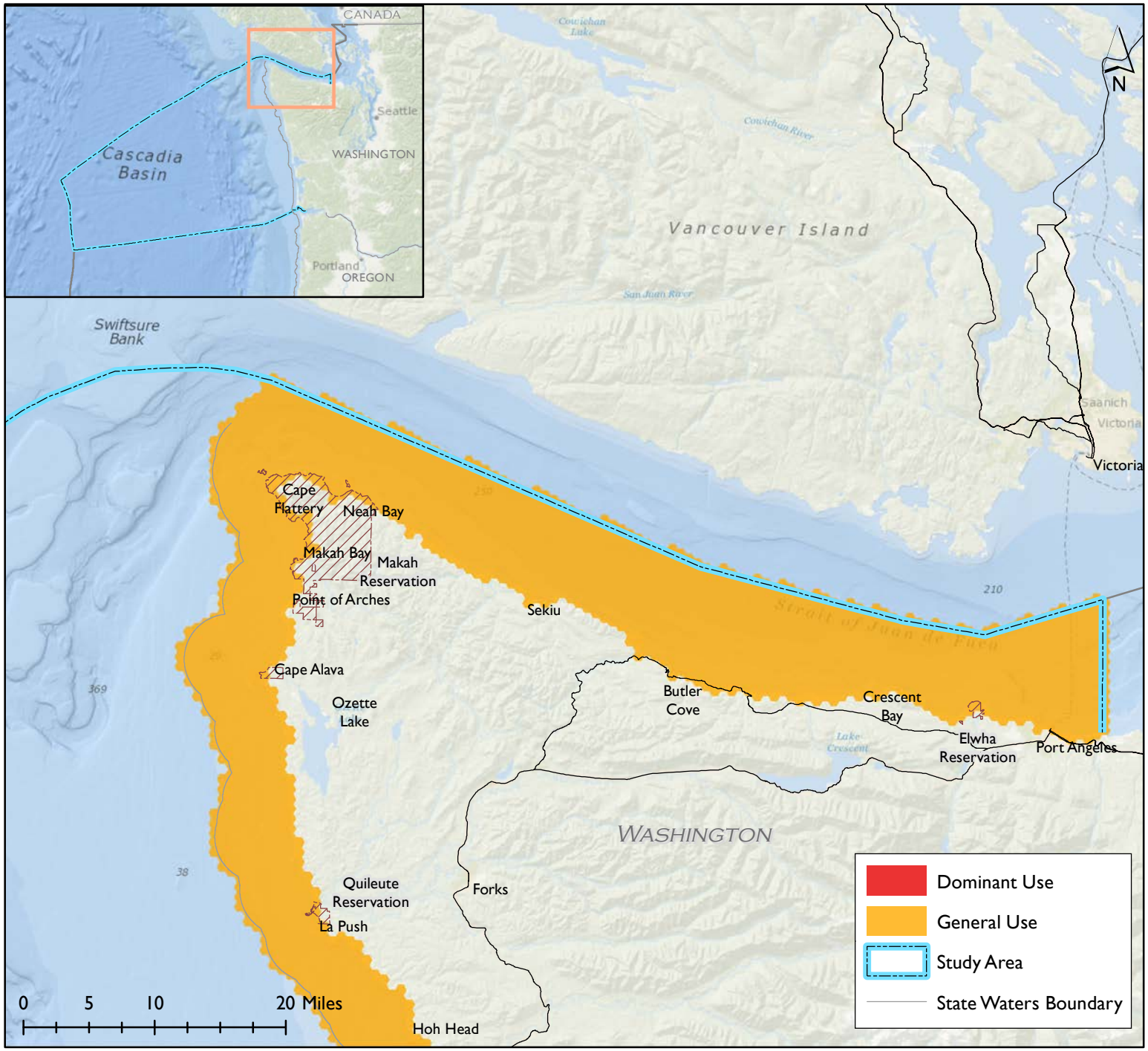

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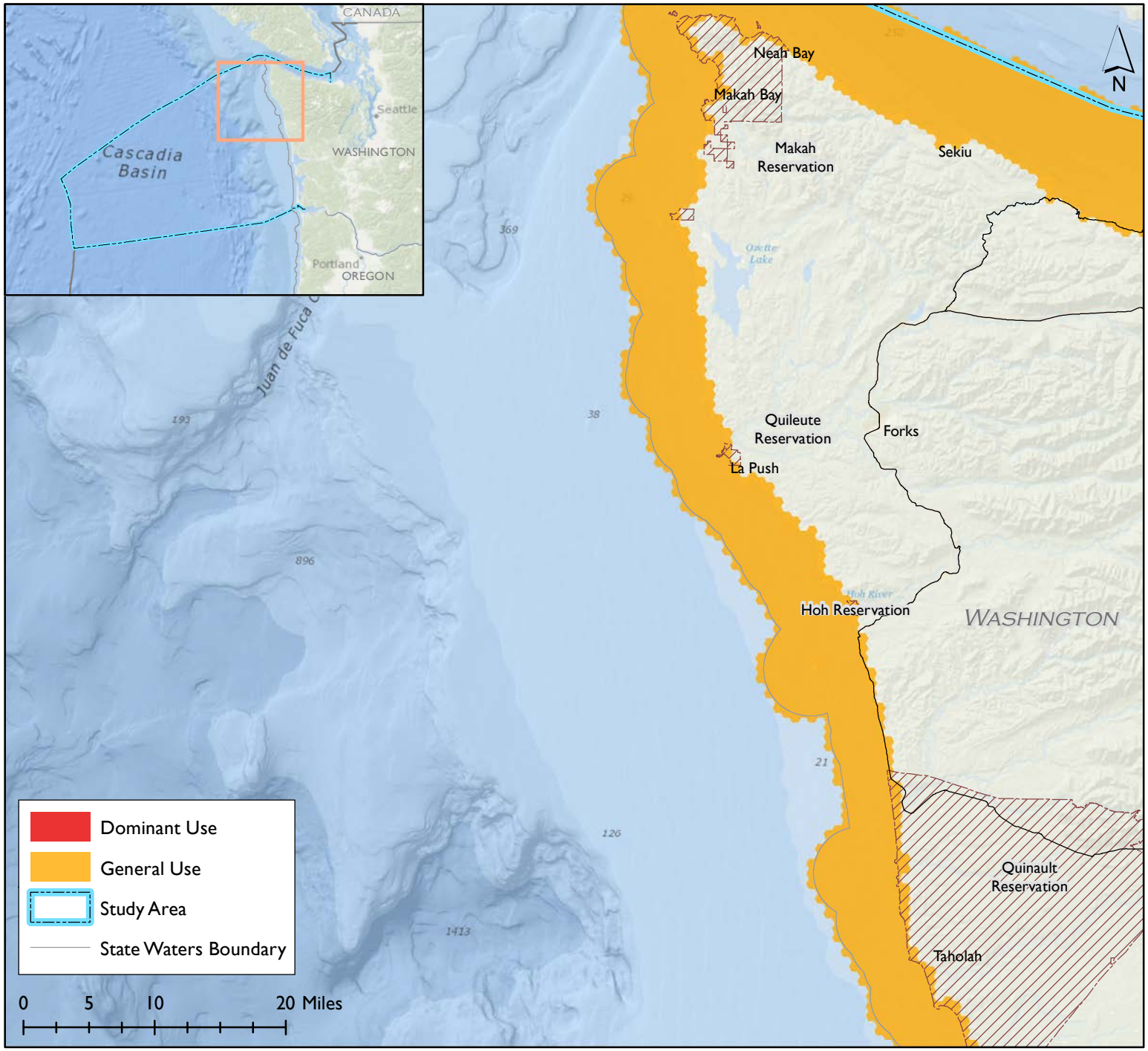

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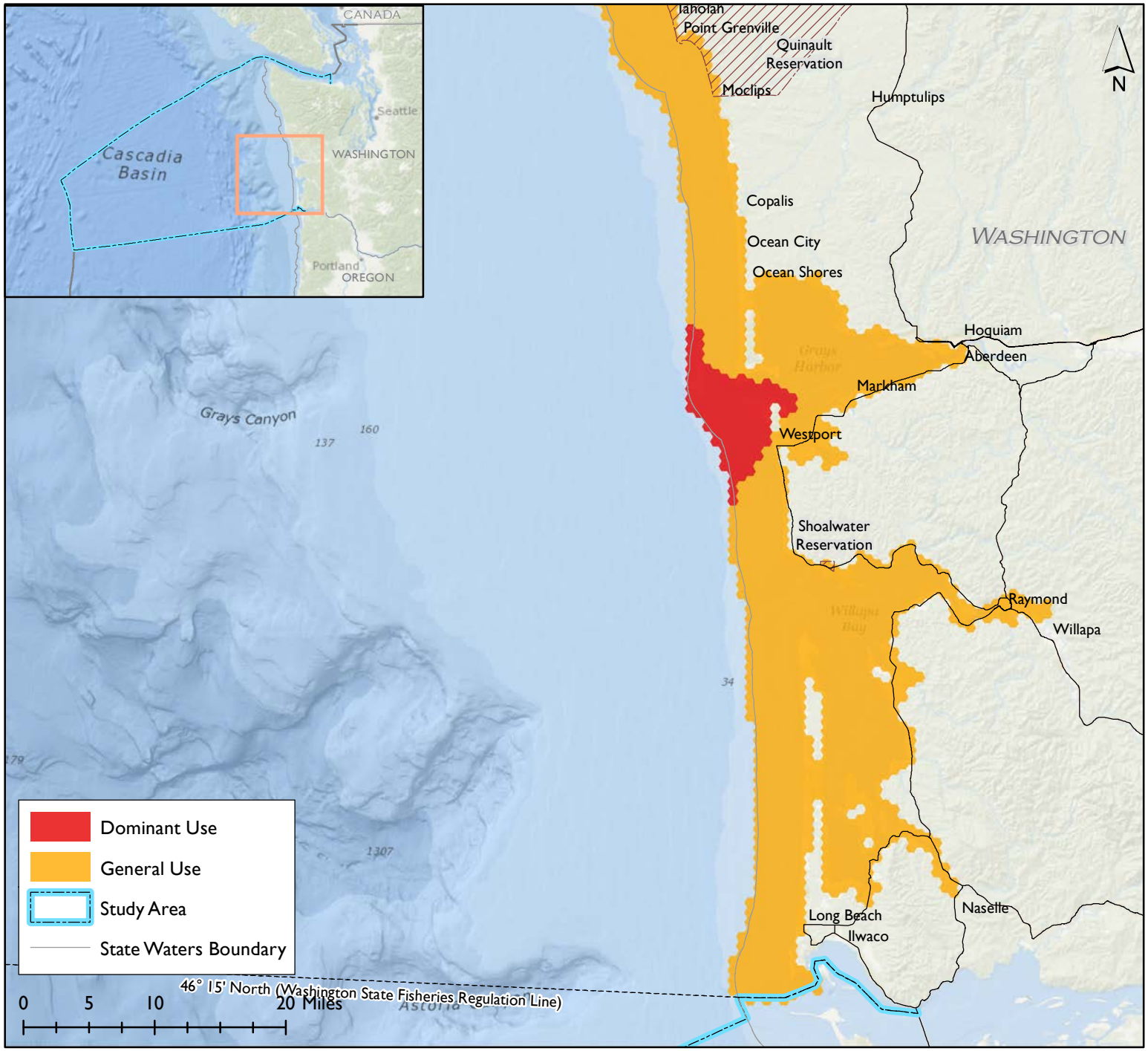

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