Introduction

More than 6000 years after humans reputedly first reached the North American continent by land, Vitus Bering led a Russian expedition aboard two ships to explore Alaska in 1741. Four decades later, Captain James Cook arrived by boat to map Alaska’s extensive coastline for Great Britain. Soon thereafter, intrepid Russian colonialists sailed from Siberia to establish the first European settlement on Kodiak Island, and almost 30,000 adventurous goldseekers disembarked from steamships in 1897 in transit to the Yukon and Klondike mines. Today, almost one million visitors reach Alaska by boat each year during the brief summer season (May–September). Although many come aboard ferries of the state’s famed Alaska Marine Highway System, most sail on one of 32 vessels owned by 12 cruise lines that now ply the inland waters of Alaska and the Canadian Pacific—and their popularity is growing almost exponentially.

Alaska’s inbound cruise arrivals now account for almost half of all visitors to the state, and their numbers are increasing at an annual rate of 10% as more ships dock each year from San Francisco, Seattle, and Vancouver, British Columbia. Indeed, so popular has this niche become, both regionally and internationally, that the marine advocacy group, Oceana, estimates cruise passengers (85% of them US residents) will more than double to 20 million by the year 2010, as more families and younger travellers try a cruise vacation. To meet this anticipated demand, the International Council of Cruise Lines (ICCL), a consortium of 16 of the world’s leading cruise lines,1 expects to christen 38 new cruise ships in the next few years, thereby increasing its own fleet capacity by 45%. Many of these vessels will be added to those previously repositioned to serve Alaska after the September 2001 attacks (Klein, 2003; Alaska Travel Industry Association, 2004; Cruise Lines International Association, 2004; Morton, 2004).

The advent and rapid growth of cruise tourism presents both opportunities and challenges for destination communities in Alaska and the Pacific North-west (Fig. 25.1). Air pollution, illegal dumping of sewage and solid waste, inadequate treatment equipment, damage to coral reefs and sensitive marine environments from inappropriate anchorages and recreational activities aboard cruise ships, and falsified records are only a few of the regulatory

infractions for which cruise lines have paid millions of US dollars in fines. The socio-economic and cultural costs are equally significant, particularly in the isolated coastal and island communities increasingly attractive to cruise visitors because of their rural lifestyles and local traditions (Ringer, 1998).

Subsistence practices among indigenous Alaskan natives are now threatened by environmental and cultural mismanagement, while social systems are overwhelmed in communities where the ratio of passengers to residents is often 11:1 or greater. Economic benefits remain equally uncertain, as villagers spend money preparing for cruise tourists who may not come, or will spend less than land-based tourists and independent travellers if they do arrive. In other ports, the noise of sightseeing helicopters and float planes, the stress on humpback whales and wildlife from tour boats, conflicts over trail use, and the "floods of cruise passengers threaten to overtax the limited facilities and supplies" (Earthjustice, 2003, p. 2). Meanwhile, the ports of Juneau and Seattle must incur additional expenses for security measures mandated by the Maritime Transportation Security Act of 2002 to directly monitor cruise ship passengers, crews and baggage while docked. As a result, the Port of Seattle continues to lose money every year on the cruise business (Zuckerman, 1999; Schroeder, 2001; Meadahl, 2003; Brown, 2004).

At the same time, there can be no denying the positive impacts of cruise travel for both passengers and local people. Economically, the influx of ships and people pumped US$958 million into Alaska in 2003 in wages and purchases, and another US$103 million in tax revenue, moorage fees and marketing. Money spent by cruise visitors while ashore added an additional US$230 million in income to state businesses and governments. As a result, cruise travel is now "the largest sector of the tourism industry in Southeast Alaska, and has a significant economic impact in the region" (Schmid, 2003, p. 1; McDowell Group, 2004; Northern Economics Inc., 2004).

In Juneau, Alaska’s state capital, the cruise tourism boom has successfully revitalized the

Fig. 25.1. Selected cruise ports, western USA and Canadian Pacific. Source: Greg Ringer.
Attracted by its abundant and accessible natural scenery, wildlife and native culture, the North West Cruise Ship Association recorded in excess of 800,000 passenger arrivals in Alaska in 2004 – 110,000 more than reported only 3 years earlier – and the state is ranked among the five most profitable for cruise tourism in the USA. With nearly 8% of the total worldwide cruise market, the industry claims that every summer, ‘one of every five cruise ships on the planet is navigating Alaska’s Inside Passage to Ketchikan, Juneau and other outposts’ (Lynch, 2004, p. E1; Alaska Travel Industry Association, 2004).

‘With our many natural attractions, colorful history and native cultures, Alaska is a perfect cruise destination’, said Governor Frank Murkowski. ‘The cruise business is an important part of our diverse economy (International Council of Cruise Lines, 2004, p. 2).

Most US ‘cruisers’ come from the east coast or midwest and consequently, embark on their 7–11 day journey to the ‘Last Frontier’ from a major coastal gateway, such as Los Angeles, San Francisco and Vancouver, British Columbia. A growing number, however, sail from smaller ‘drive-to’ markets in close proximity to larger populations in the Pacific North-west, including Seattle. So popular are these sailings regionally that Idaho and Oregon American Automobile Association travel agents alone booked 37% more Alaskan cruise vacations in 2004 than the previous year (AAA Oregon/Idaho, 2004).
The majority of passengers are married and middle-aged (50 years or older). Since Alaskan cruises tend to be relatively expensive, costing an average of US$10,000 a person for a week-long cruise, those who sail aboard the cruise ships are also moderately affluent, with median household incomes of US$75,000 and more. Passenger surveys further indicate that Alaskan cruisers prefer to travel in pairs or parties of two, and the majority are women.

Popular ports of call include Juneau; Sitka, once the political center of Russian America in the 19th century; Ketchikan, Alaska’s ‘First City’ as cruise ships transit the Inside Passage north; Skagway, a former gold rush town; Haines, terminus for the Alaska State Marine Highway; Hubbard Glacier, in the Wrangell–St Elias National Park (the largest protected area in the USA); and Whittier, gateway to Anchorage and Denali National Park. As a destination market, Alaska attracts more than 90% of all US port-of-call passengers – and this total does not include those who sail on small cruise ships, or ‘pocket cruises’ that typically carry 50–100 passengers on day cruises for whalewatching and to view scenic sights like Prince William Sound, the Malaspina Glacier, College Fjord and Glacier Bay National Park.

Because of passengers’ varied interests and itineraries, the major lines employ a practice called ‘vertical integration’. By purchasing businesses in all segments of the Alaskan tourism industry (including investments in land- and water-based tour companies in the primary destinations, gift and souvenir shops, hotels and restaurants), cruise lines strive to satisfy every desire of the growing number of users. In this manner, both cruise companies and Alaskan communities derive considerable revenue from a wide range of ancillary support and recreational activities, such as ‘flightseeing,’ fishing, birdwatching and wildlife viewing, and wilderness accommodations, as well as related spending in food sales, environmental management, marine maintenance and infrastructure development.

With multiplying passenger numbers and jobs – the Alaska cruise industry now employs almost 19,000 workers or 7% of the total cruise-related workforce in the USA – marine tourism impacts virtually every part of the state’s economy, from construction to agriculture and transportation. In ports from Astoria to Skagway, ‘industry and passenger spending in the United States rose from $10.3 billion in 2000 to $12.9 billion in 2003 – a 25 percent gain’ (Business Research & Economic Advisors, 2004, p. 1). The International Council of Cruise Lines further reports that cruise ships and their vendors contributed more than US$694 million in direct purchases, salaries, taxes and services to the state’s economy in 2004. Nearly two-thirds of this amount comes from crew and passengers, the latter spending US$140 each per visit or ‘31 percent of all passenger and crew spending in the United States’ (Business Research & Economic Advisors, 2004, p. 1; Sacks, 2004).

The Juneau Convention & Visitor Bureau (2004, personal communication) reported almost 850,000 cruise arrivals in 2004 from both large and ‘pocket’ cruise lines (a 9% annual growth rate), while in Ketchikan, between one and five ships now anchor each day in the summer season, with 508 stops by 34 ships recorded by the Ketchikan Visitors Bureau (2004). Aboard were a total of 681,096 passengers, nearly triple the number reported a decade earlier, when a total of 27 cruise liners stopped in port.

The decline of the timber industry in Haines in the early 1990s led to similar growth in tourism, with the town targeting the cruise ship market early by identifying the industry’s infrastructure needs and nearby attractions, and then spending US$1.5 million to expand the Port Chilkoot dock facilities and transportation networks. The result, at least initially, was continued increases in both ships and passengers, from 58 stops (27,000 passengers) in 1990 to a peak of 184,134 passengers on 13 vessels (157 stops) in 2000 (Cerveny, 2004; Gilbertson, 2004; Mazza, 2004).

In addition to the growth of cruise tourism in Alaska, neighbouring states in the USA and the Canadian province of British Columbia have also profited as cruise travel attracts more passengers to the Pacific North-west, already the second-largest source of cruise passengers in the country, with 1.18 million reported in 2003. Seattle, a major port of embarkation for visitors from across the USA is now reputedly the third-largest cruise port in the nation in terms of passengers, with 172,500 passengers boarding in 2003 (many of them regional and local residents).
On average, seven cruise ships now stop briefly in Seattle each week from May to September, with 149 cruises recorded in 2004 and annual income of almost US$ 200 million, and the city is homeport for four international companies – a remarkable turnaround for a city that rarely saw a cruise ship before 2000. Perhaps more significant for local workers, jobs in the cruise industry are also increasing, with nearly 2000 positions either directly or indirectly servicing the cruise lines in 2003, each paying approximately US$39,500 a year. Anticipating further expansions in the Alaska cruise market, with 185 ships and 375,000 passengers expected to dock in Seattle in 2005, as faster ships make it possible for those based in Los Angeles and San Francisco to explore Alaska, the Port of Seattle is now redeveloping its harbour facilities to accommodate more cruise ships, and establishing itself as administrative headquarters for cruise lines on the west coast through a combination of ship repair facilities and management support services.

With Portland considered too inconvenient for cruise ships because of its location inland on the Columbia River and its lack of inner-city moorings, the San Francisco–based 'cruise ship stopovers bring economic hope' (Associated Press, 2004a, p. D13) to the small coastal community of Astoria, Oregon, as well. In a town where dilapidated shops and houses were the norms only a few years ago, the arrival of cruise ships headed north to Alaska has helped initiate an economic revival. Following rehabilitation of Astoria’s historic hotels and renovated waterfront, and sparked by the arrival of Norwegian Cruise Lines in 1997, companies now stop in Astoria so that passengers can enjoy walking tours and excursions to Mount St Helens, an active volcano, or to seaside towns nearby (Tobias, 2004).

In 2004, a total of 8 ships docked – including three on the same day in late September, with 6000 passengers altogether in a city of only 10,000 persons – and 14 vessels are scheduled to visit Astoria in 2005, evidence of the growing popularity of both the town and cruise tourism. Although the stopovers are relatively brief, averaging 6–8 hours in length from berth to departure, tourism has increased by half since 2002 and the cruise stops are quite lucrative for the local community, with each passenger spending approximately US$150 while ashore. In time, the city’s goal is to become a 'jump-off spot where Oregon cruisers could get on and off ships...[instead of a] pit stop for California cruisers' (Lynch, 2004, p. E2; Rocka, 2004).

Along the Canadian Pacific coast, cruise travel is equally strong, as revenue and total passengers are driven higher by the Alaskan cruise market. Although Vancouver’s role has changed since cruises to Alaska began in the 1950s, as more cruise lines homeport in Seattle, the city remains a prominent beneficiary of Alaska’s popularity and the US Passenger Services Act (1886), which generally allows only US-owned, -built and -crewed ships to transport domestic passengers directly between US ports. Since most of the Alaskan cruise ships are foreign-owned and -manned, they must make an intermediate stop outside the USA en route to and from Alaska and the contiguous USA. For this reason, in part, more than two dozen ships now either depart from, or visit, Vancouver each year in transit to Alaska, and the 368 port calls scheduled for 2004 earned an estimated US$1.9 million in direct and indirect benefits (Dobson, et al., 2002; Lynch, 2004).

Accompanying the economic contributions, however, are growing conflicts – from Astoria to Alaska – related to the changing dynamics and behaviour of tourists, the congestion and strains on local residents and infrastructure, and the potential loss of social and cultural identity as communities evolve into tourist destinations, and local people are forced to make the difficult transition from lifestyles defined by resource extraction (fishing, timber, mining) to those of a tourist attraction. Local entrepreneurs complain that the permit process utilized by cruise ships in Glacier Bay is unfair to local business owners, while operators in Haines are unable to profitably compete against the tours pre-sold by the cruise ships, as independent travel to Alaska declines in interest – only 23% of those who visit south-east Alaska now label themselves ‘independent travelers’, compared to 40% in 1989 (McDowell Group, 2002; Cruise Junkie.com, 2004a).

Aggravating the situation, many working-class residents have been displaced by higher housing costs associated with the economic
rebirth and gentrification of Alaska’s coastal communities, and wages in the cruise sector remain significantly less than those historically paid in the logging and fishing industries. In addition, the instability of the domestic and international tourism markets, along with the hostility of the cruise industry to visitor taxes and cruise cap measures, and its willingness and ability to transfer ships and stops to more lucrative routes on short notice, add to the difficulty of relying on tourism as a sustainable source of income, as the people of Haines are learning.

In 2002, the total number of cruise visitors declined by almost 79%, after Royal Caribbean International cancelled 52 dockings in Haines, the Norwegian Sky cancelled 19 port calls, and the Universe Explorer reduced its visits by one, dropping the total number of arriving cruise passengers to only 37,192 for the season. Two years later, Holland America Line announced plans to withdraw 8 of the company’s 17 planned cruise stops in 2005 and shift them to neighbouring Skagway, where passengers could connect directly to the company’s bus tours and lodges. The result will be a further reduction in passenger numbers, with only 14,400 passengers expected to arrive next summer – the lowest number since cruise ships began stopping in Haines in the early 1990s – and an equal decline in income. As a result, there is now considerable out-migration of younger residents and families for affordable homes, jobs and schools elsewhere (Morphet, 2002; Williams, 2004).

Health and Ecological Impacts

In addition to the economic displacement and behaviour transformations associated with the development of cruise tourism in many of these towns, there are risks associated with cruise ship sanitation and public health. Since many Alaskans rely on the natural environment for subsistence, as well as recreation and transportation, this is an issue of great concern, and one which the Alaska Department of Environmental Conservation (ADEC) highlighted in 1999 when it established the Alaska Cruise Ship Initiative to address impacts caused by cruise ships in state waters (ADEC, 2002).

All Alaskan cruise ships must comply with Federal and State environmental laws, including the Clean Water and Clean Air Acts, and the Oil Pollution Control Act. Despite these efforts, sewage-borne illnesses, similar to the recent outbreaks of Norwalk-like viruses on several cruise ships in the Caribbean and the Mediterranean that affected more than 3000 passengers and crew, have resulted in cancelled port stops and shortened itineraries in Alaska as well. Yet, this highly contagious virus is spread, in part, by raw sewage dumped into the oceans by cruise boats, which ‘generate as much as 30,000 gallons of raw sewage [in addition to 7 t of garbage and solid waste, 15 gallons of toxic chemicals, 7000 gallons of oil and bilge water, and air pollution equivalent to the exhausts of 12,000 automobiles] every day’ (Klein, 2002, p. 1).

Although diesel engine emissions from cruise ships are regulated in Alaska (Cruise Ship Air Emissions Working Group, 2000), air pollution also remains a serious public health problem. While compliance has certainly improved since 1999, when 13 ships from six companies were fined by the US Environmental Protection Agency (2004) for violating air quality standards in Glacier Bay, Juneau and Seward, ships from Holland America Line continue to be cited every year for violating air opacity regulations in Alaskan ports (though most fines were suspended after the company promised to comply).

In addition, while cruise ships are legally barred from releasing plastics and untreated grey water (waste water from sinks, baths, showers and laundries) in Alaska state waters, and may only release untreated sewage in the Alexander Archipelago of Alaska while traveling at least 6 knots an hour and a mile offshore, neither the US nor the Canadian governments regularly monitor discharges in the Inland Passage or Gulf of Alaska. Nor are cruise ships required to have a permit to dump or to monitor water quality where they discharge, or even to report the contents of their release.

As a result, no one knows whether the illegal sewage discharge in Juneau in May 2001 by the Norwegian Sky, where ‘[f]ecal coliform counts were 3500 times the allowable federal standard and total suspended solids 180 times the standard’ (London, 2002, p. 39), was an anomaly in terms of seriousness? Unlawful grey water and waste water discharges were clearly
the industry norms, however, as evidenced by similar citations against three other vessels while docked in Juneau only a month later, and the subsequent dumping of 40,000 gallons of sewage sludge in Juneau’s harbour by Holland America Line’s 

Nevertheless, ADEC determined that same year, after nearly 2 years of research and advisory input, that Federal and State regulations were adequate in controlling potential hazards to the marine and terrestrial environments. Although ‘the high levels of fecal coliform found in cruise ship discharge testing during the 2000 cruise ship season in Alaska’ (Dobson, et al., 2002, p. 13) increased concern over industry impacts to wildlife and human health, ADEC advisers noted that every cruise ship entering Alaskan waters is equipped with primary or secondary treatment facilities. They argued, therefore, that normal ship operations should not ordinarily release harmful amounts of chemicals or particulates. Consequently, the state was urged only to restrict chlorine discharges, a caustic disinfectant regularly used in shipboard treatment systems, and to address the possible impacts of waste water dumping by cruise ships and state ferries in slow-moving water.

An equally serious environmental threat stems from the release of ballast water into state waters. Frequently laden with non-endemic, invasive marine species, bacteria and diseases transported from foreign ports, the impacts can include the decimation and extinction of native plants and wildlife, and it is a growing problem in west coast ports. Yet, only California regulates ballast discharges at present, though the US Environmental Protection Agency is currently developing sewage and grey water disposal standards for cruise ships in Alaskan waters under Title XIV: Certain Alaskan Cruise Ship Operations (33 U.S.C. 1902 Note), with sampling initiated in the summer of 2004.

Furthermore, while some cruise lines have worked to develop—and implement—state-of-the-art waste treatment equipment...no government programs exist to verify the efficiency and benefits of new technologies’ (Ocean Conservancy, 2004, p. 3), and US and international laws continue to permit ocean-going vessels to dump treated sewage anywhere at sea and untreated sewage more than 4 knots from shore (though the cruise ship industry standard is 12 knots). Thus, while cruise travel in Alaskan waters is certainly better managed, and the ocean and marine wildlife better protected, by Federal and State legislation than elsewhere in the country, it remains primarily the responsibility of local communities to determine whether fishing and swimming in coastal waters remain safe for public consumption and use (Cruise Junkie.com, 2004b).

Fortunately, ‘this pollution can be stopped for the costs of a can of soda per passenger per day’ (Ocean, 2002, p. 2). Unfortunately, many communities are restrained from taking effective action against polluters by political barriers, as well as budget constraints. Every cruise ship now operating on the Alaska route flies a ‘flag of convenience’, indicating that it is registered outside the USA. As such, these ships are immune from stronger US labour and environmental laws, even though they operate in US waters.

Enforcement efforts against illegal actions by cruise ships are further impeded by misinformation among cruise ship passengers, most of whom mistakenly believe that environmental safeguards are in place aboard most ships, and consequently are unaware that sewage is dumped daily at sea. However, a strong majority (80%) of tourists opposed this practice when informed, and 60% expressed a willingness to pay more to ensure cleaner, ‘eco-friendly’ cruises. More specifically, cruise customers want companies to upgrade existing ship-based, waste-treatment systems, and favour more stringent inspections and frequent, independent monitoring of cruise ship practices (Reece, 2003; ADEC, 2004).

The Future

There is no doubt that many Alaskans share these sentiments, as Governor Tony Knowles himself indicated in June 2001, when he signed legislation giving Alaska state regulators direct authority over the cruise industry. Designed to give greater protection to Alaska’s marine resources, including ‘the world’s largest populations of wild salmon and other species that are important to commercial, sport, and subsistence users’ (M. Brown, Commissioner, Alaska Department of Environmental
Conservation, Juneau, 2002, personal communication), the industry-funded law created, for the first time, a set of enforceable environmental standards and a verified programme for monitoring and documenting ship discharges and emissions in state waters effective January 2004. Although small cruise ship operators now seek an exemption from the waste water pollution law, arguing against the high expense of the equipment required, violations of the Marine Visible Emissions Standards have declined from a total of 15 in 2000 to only 2 Notices of Violation in 2003, as a direct result of the approximately 260 opacity assessments conducted each year on large cruise ships in south-east and south-central Alaska ports (Associated Press, 2004b; Eastern Research Group Inc., 2004).

This effort accelerated in December 2003, when the International Council of Cruise Lines and Conservation International announced a ‘joint initiative to protect biodiversity in top cruise destinations and promote industry practices that minimize the cruise industry’s environmental impact’ (ICCL, 2003, p. 1). It was critical, the Ocean Conservation and Tourism Alliance proclaimed, that actions be taken immediately by the cruise industry to ‘pioneer conservation solutions that are scientifically, economically and culturally sound...[noting that] approximately 70% of cruise destinations are in the biodiversity hotspots’ (ICCL, 2004, p. 2). With an initial commitment of US$1.2 million, the partnership, in consultation with scientific experts in conservation and cruise tourism, urged companies to become better environmental stewards by acting quickly to (i) establish ‘best practices’ and improved technology for waste water purification and disposal; (ii) increase environmental education for vendors, crew members and cruise guests to highlight critical environmental challenges and support opportunities; and (iii) create collaborative ‘destination partnerships’ between local communities, governments and cruise companies to assure quality experiences for both residents and visitors, and long-term protection for the natural and cultural environments of the cruise destination.

Actions already undertaken include the installation of a US$4.5 million electric shore-power plug-in system in Juneau, where cruise ships may disconnect their engines while docked, thereby reducing both noise and air pollution. The City and Borough of Juneau (CBJ) have also joined with cruise lines and tour operators to institute Tourism Best Management Practices, ‘a model management program for sustainable tourism’ (CBJ, 2004, p. 1) that addresses the concerns of local residents, government leaders and the industry.

Our vision is to work with leaders in the tourism industry and demonstrate how the industry and conservation community can work together to produce mutually beneficial results. The goal is to not only protect the places tourists visit but also maximize positive contributions to conservation in high biodiversity areas where the cruise industry operates (ICCL, 2004, p. 3).

The recently proposed Clean Cruise Ship Act of 2004 is another step in protecting the marine environment enjoyed by cruise passengers. Among its provisions are those that would ban all cruise ship discharges within 12 miles of US shores, require cruise lines to reduce air emissions and harmful impacts on ocean ecosystems by outfitting all ships with the latest environmental technology, and ensure greater enforcement efforts by the US National Oceanic and Atmospheric Administration and other Federal agencies to ban or limit waste water discharges in marine protected areas and sensitive environments. While some existing treatment plants in Alaska would be ‘grandfathered’ into the new law, due to the investments already made in improvements under existing law, the net goal would be zero pollutants by 2015 in all US waters (Conservation International, 2003; Alaska Conservation Foundation, 2004; Ocean Conservancy, 2004).

In conclusion, for the people of Alaska, the social and environmental problems brought by the cruise industry are still seen as manageable, and cruise passengers continue to be welcome in most ports for both personal and economic reasons. Whether they will remain as guests, however, will depend upon the cruise lines, and the practices that they employ, as Alaskans strive to sustain both their communities and their marine environments in the 21st century.
References


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