

Chapter 4: Park Use and Issues

This chapter lists and briefly describes uses and issues raised during the planning process that affect park management. Management policies and recommendations in Chapters 5 & 6 address many of these uses and issues.

Overview of Park Use

Recreation within the units on the north side of the bay is currently limited by the relatively small number of developed facilities. Developed recreation opportunities are provided at two of the units and include mountain bike and beach access trails within the Diamond Creek unit; and skiing and hiking trails within the Eveline unit. The Overlook Park unit and the Cottonwood Eastland Unit have minimal development – recreational use in these units primarily occurs on user defined or social trails.

Most visitors to the park units on the south side of the bay arrive by water taxi or personal boats and most visit during summer – in 2017, over 80% of users visited this area in June, July, or August. Use in this area mostly occurs on the saltwater and beaches and the developed trail systems on the Grewingk Glacier forelands and the area around Halibut Cove and Halibut Cove Lagoon and China Poot Bay. Commercial water taxis deliver visitors to trailheads and beaches; recreational boating related activities include fishing, wildlife viewing, and access to hiking, hunting, and other activities. With the recent addition of the Kachemak Bay Water Trail, the marine tidelands are receiving increased use by kayakers and others. Since China Poot Lake has a barrier falls at the outlet, the area offered an opportunity to establish a personal use fishery, in place since 1980, that has become very popular. Birding is also a very popular activity throughout the parks, especially during the annual Kachemak Bay Shorebird Festival, usually held in the early part of May.

Aircraft are also a common means of access, landing on saltwater, gravel bars, and at several freshwater lakes. Most of these landings are made by commercial flight operators. Flightseeing and air taxi services offer an important recreation service and access to distant portions of the park.

Public use cabins are very popular in summer. Winter use is low and primarily consists of backcountry skiing, although some hiking, mountaineering, and kayaking also occur. Winter users near the year-round communities of Halibut Cove, Seldovia Village, and Seldovia typically access ski terrain adjacent to their residences by hiking up with skins on their skis.

While exact numbers are not known, use of the lands and waters within KBSWP are significantly lower than the use occurring in the KBSP. The cost of crossing the bay from Homer is prohibitive for many potential park visitors, and ideal beach landing sites with

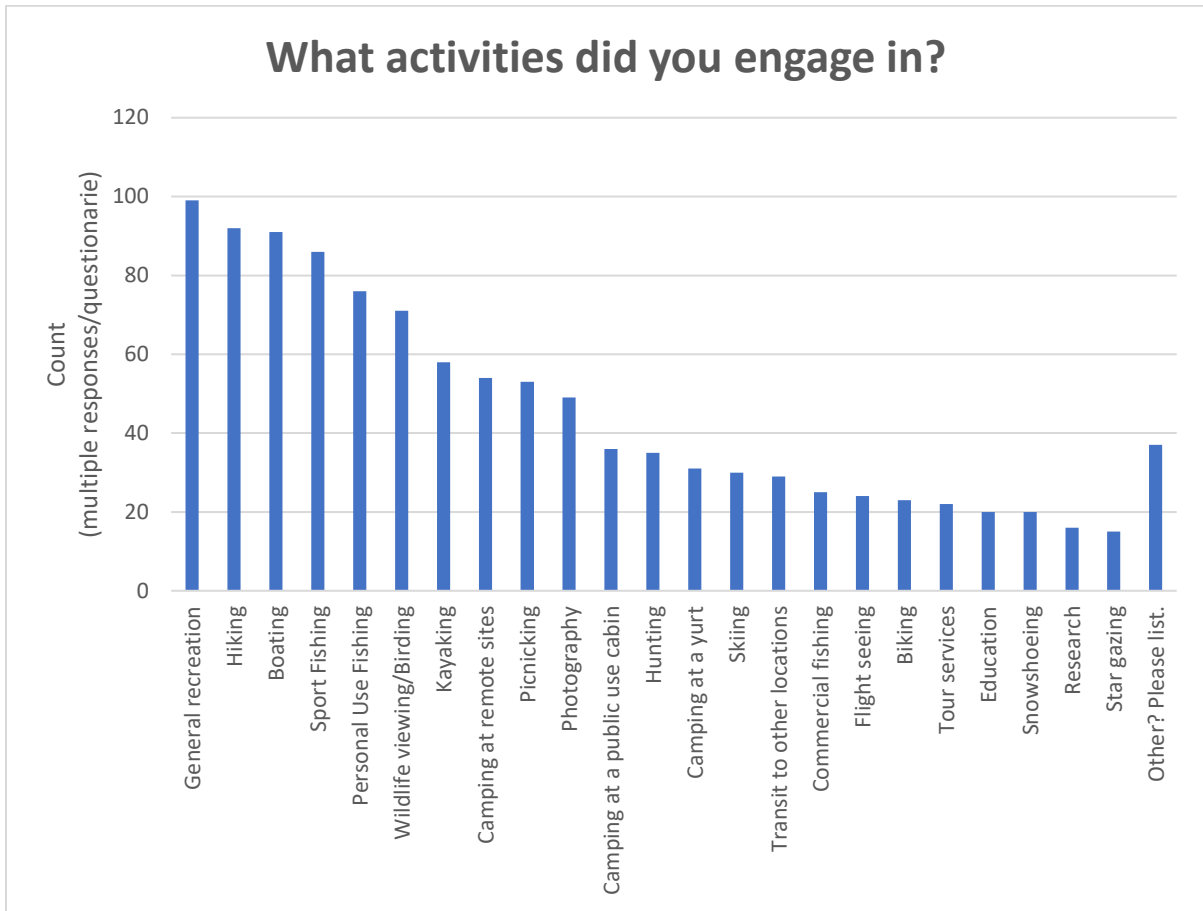
1 ready access to the interior of the park are limited. This is especially true on the Gulf of
2 Alaska side of the park, where cost of transport is even higher (usually from Seward or
3 Homer by boat or aircraft). KBSWP can also be accessed via an arduous trek over the
4 southern spine of the Kenai Mountains (most commonly by trekking the Tutka Alpine
5 Traverse (AKA Backdoor Trail)); via Rocky River Road (although this washed out in several
6 places in 2012); or by boat or plane. For those that do make the trip, a truly remote
7 experience is the reward.

8
9 Other current uses of the park, at least some of which are likely to increase in popularity,
10 include: surfing, rock climbing, sailing, photography, diving, ice skating on Grewingk Lake,
11 snowshoeing, horseback riding, dog walking, wildflower viewing, paddle boarding,
12 flightseeing, Nordic skiing, mountaineering, and skijoring.

13
14 In January of 2014, DNR received 122 responses to a questionnaire on recreational park use.
15 117 of the questionnaire respondents had visited KBSP, while 100 had visited KBSWP.
16 Based on responses to the questionnaire, the most common recreational use of the park units
17 is for general recreation, which includes hiking and boating. (See Figure 1: Park Visitor
18 Activities.) Users that responded to the questionnaire visited the units on the south side of
19 Kachemak Bay more than the northside units, with fewer visitors to areas along the Gulf of
20 Alaska, and the fewest to locations along the spine of the Kenai Mountains (see Figure 2:
21 Park Use Areas).

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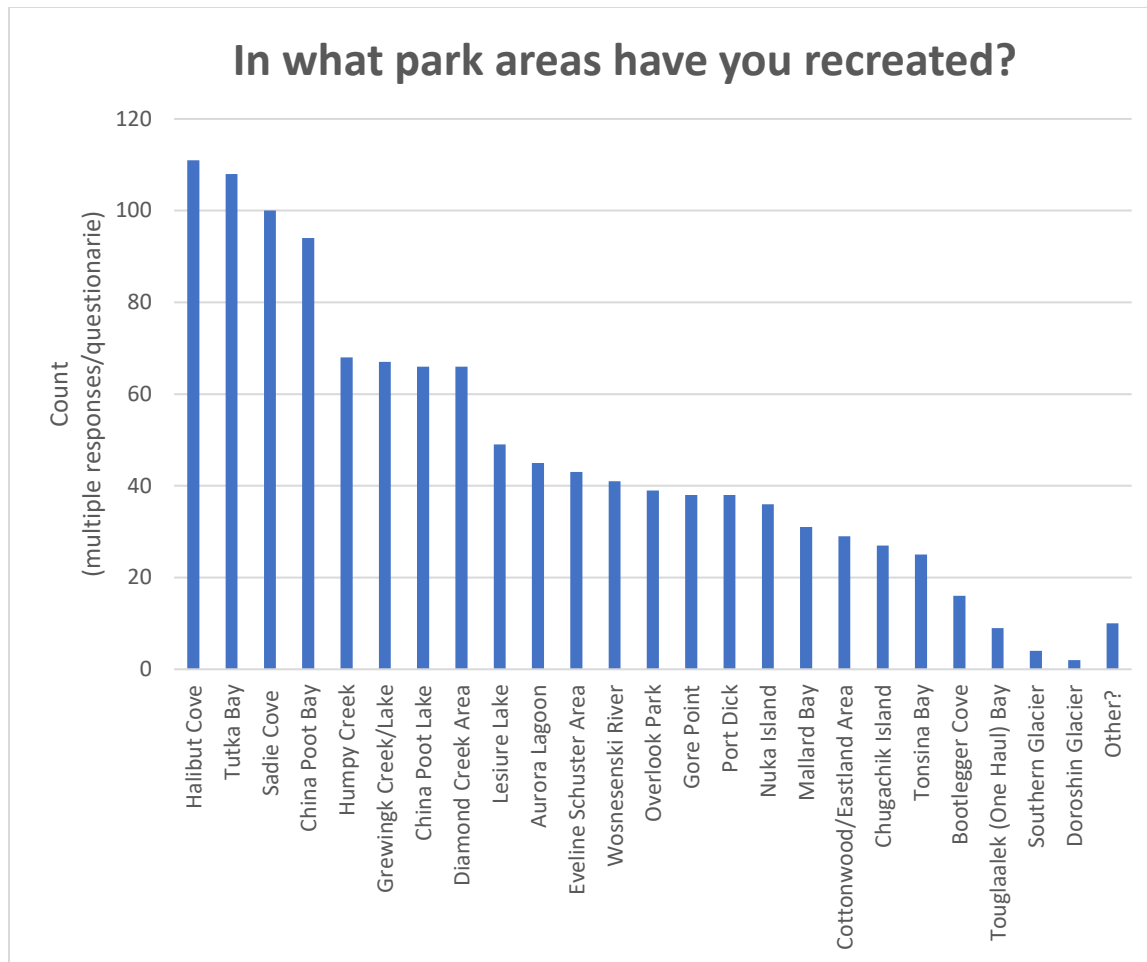
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4 **Figure 1: Park Visitor Activities**

5 Park activities mentioned by respondents to the 2013-14 questionnaire (122 respondents).

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Figure 2: Park Use Areas

Geographic areas where respondents reported recreation activities, based on 2013-14 questionnaire results. Respondents could select multiple areas of use (122 respondents).

Changing Use and Recreational User Conflicts

Since the last plan was completed for the park units, changes in technology and recreational use patterns have necessitated a review of current and emerging recreational activities. Park users are creative people, looking to push the limits of themselves, technology, and sport. In some cases, DPOR may offer expanded recreational opportunities; in other cases, some uses may be limited to protect resources.

Bicycling

Off-road cycling has significantly increased in popularity since the last plan was completed. The recent development of fat-tire bikes (tire widths of 3.7 inches or greater) enables cyclists to travel on a wider range of ground surfaces with the potential for less surface damage. Park

1 users would like to be able to ride mountain bikes on designated trails within KBSP and fat-
2 tire bikes on the beaches of Kachemak Bay and the Gulf of Alaska.

3 **Personal Watercraft (PWC)**

4 Personal watercraft ownership is increasing and now represents a large segment of overall
5 boat sales in the United States. In 2001, regulations were promulgated prohibiting PWC use
6 within KBSP, KBSWP, and the Kachemak Bay Critical Habitat Area (KBCHA), which
7 overlaps KBSP and is managed by ADF&G.¹ Interest in allowing this activity to occur
8 within Kachemak Bay was expressed during the planning process as was support for
9 retaining the current prohibition on their use. Some feel that allowing PWC use is an equal-
10 access issue, would provide business opportunities, and that recent advances in technology
11 and design have largely addressed previous concerns related to fuel, exhaust emissions and
12 noise. Others think that PWC use will degrade the park experience for other park users,
13 disturb wildlife, erode the shoreline, and pollute the bay. ADF&G is considering changing
14 the regulation to allow PWC use in the KBCHA.
15

16 **Rotary-winged aircraft (Recreational and Commercial)**

17 Helicopters are used to access parks areas, mostly commercially. There has been increased
18 interest in expanding landing areas for summer operations; but since 1989 DPOR has only
19 authorized helicopter landings on Grewingk Glacier as part of commercial flightseeing tours.
20 People have raised concerns regarding helicopter use including: potential expansion of the
21 use; and disturbance to wildlife, sensitive areas, and the park's quietude. Additionally,
22 concerns were raised about compatibility with park purposes.
23

24
25 Recently, commercial operators have applied for helicopter landings in support of heli-skiing
26 operations. Typically, this type of use includes multiple flights to ferry skiers to the top of
27 the run from the base. Other potential helicopter uses might include heli-hiking (transport
28 from an access point to an elevated drop-off point in the summer, without ferry flights) or
29 heli-backcountry-skiing (transport from an access point to an elevated drop-off point in the
30 winter, without ferry flights).
31

32 **Fixed-wing aircraft (Recreational and Commercial)**

33 Current regulations allow aircraft landings on saltwater, gravel bars (KBSP only), saltwater
34 beaches (KBSWP only), Emerald Lake, China Poot Lake, Hazel Lake and Petrof Lake.
35 Requests to allow float plane use on Upper Hazel Lake, Wosnesenski Lake, Gore Point Lake,
36 and Port Dick Lake were received. Conflicts can arise between those seeking a quiet and
37 remote backcountry experience and those reaching the park by air. Aircraft can easily reach
38 remote areas in the park, whereas other backcountry users may have undergone considerable
39 effort just to get away from exactly this kind of motorized activity.
40

41 **Unmanned Aerial Vehicles (UAVs)**

42 The commercial and recreational use of Unmanned Aerial Vehicles, commonly referred to as
43 drones, is increasing. Government agencies are also using drones to gather aerial data in a
44 cost-effective manner.
45

¹ 11 AAC 20.115, 11 AAC 20.215, and 5 AAC 95.310, respectively.

1 Some appreciate that drones offer amazing landscape views with low impact and would draw
2 users to the park. There are concerns that DPOR doesn't have enough staff to monitor drone
3 use; that many drone users will lack the expertise needed to determine how far they are from
4 wildlife or people; and that drone use will invade the privacy of park users. Others believe
5 that due to vegetation and topography, an operator may not know the drone is disturbing
6 someone nearby; that at 400 feet, a drone would impact a large area; that allowing
7 recreational drone use conflicts with the definition of a scenic park (AS 41.21.990) because
8 drones introduce an "artificial feature," albeit temporarily; and that fines for misuse of drones
9 should be instituted.

11 **Unmanned Underwater Vehicles (UUVs)**

12 Unmanned underwater vehicles operate underwater and can be either remotely operated by a
13 human or be autonomous. UUVs are used for oceanic research, seafloor mapping, and the
14 installation, maintenance and inspection of submerged pipelines and fiberoptic cables.
15 UUVs can record conditions and terrain below sea ice when this activity is too risky for a
16 manned vessel.

19 **Commercial Activities**

21 **Commercial Activities Facilitating Recreation**

22 DPOR generally encourages commercial activities that provide or enhance recreation
23 services in state parks. Commercial activities should be consistent with the purpose of the
24 park and the appropriate level of commercial development must be determined. Commercial
25 uses of park lands and waters (except for some fishing uses) are managed by DPOR through
26 a fee-based commercial use permit system. Commercial operators include such visitor
27 services as water and air taxis, fishing charters, guided hiking and hunting, and wildlife tours.
28 Producing films, publications, video guides, and commercials are also considered
29 commercial activities.

31 Commercial tours facilitate sea-kayaking and other human-powered boating, offer instruction
32 of various types, equipment, and half-day to multi-day guided trips. One of the operators is a
33 general guide service, willing to help individuals recreate via multi-sport trips in KBSP. Two
34 of the operators are resort lodges, with fixed assets on the south side of the bay, but whose
35 customers use the park units for hiking, bird-watching, and fishing, among other activities.

37 Water taxi services range from simple trips across the bay to cargo delivery and research
38 support using larger and more capable vessels. Many of the water taxi permittees offer
39 service to docks at Halibut Cove, Seldovia, public use cabins, and private lodges, as well as
40 beach landings at Glacier Spit, China Poot, Saddle Trail, and elsewhere for hikers looking to
41 explore the park.

43 Fishing charters use portions of the bay for salmon and halibut fishing. In addition, guided
44 fishing excursions are available to the many streams that flow through the park, offering
45 fishing for salmon, trout and Dolly Varden.

1 **Commercial Fishing**

2 The Kachemak Bay area is divided into nine commercial fishing subdistricts and includes
3 Port Graham to the south. There are only five beach areas along the southern shore of
4 Kachemak Bay where set gillnets are allowed.

5
6 Pacific cod, Pacific halibut, walleye pollock, sablefish, lingcod, salmon and many species of
7 rockfish, skates, and flatfish are commercially important species that occur within the marine
8 waters of the Parks. The Pacific cod fishery is the largest commercial groundfish fishery in
9 the Cook Inlet Area with about half of the total harvest occurring in the Cook Inlet District,
10 which includes Kachemak Bay.

11
12 In Kachemak Bay and the waters of the Outer Coast unit, there have been commercially
13 important pot fisheries for Tanner, Dungeness, and king crab, and spot shrimp; and a trawl
14 fishery for northern and sidestriped shrimp. The commercial herring fishery has been closed
15 since 1990 due to low abundance. Fisheries have been closed since 1995 for Tanner crab,
16 1997 for Dungeness crab and shrimp, and 1984 for king crab, due to low abundance of these
17 species. Tanner crab continues to be harvested but only through sport and subsistence
18 fisheries and some years even these have been closed or limited. Hardshell clams were once
19 abundant in Kachemak Bay but commercial fisheries were closed by regulation in 2007.
20 There was a short-lived commercial fishery for blue mussels, but it has been closed since
21 1998. Red sea cucumber and green sea urchin populations in Kachemak Bay once supported
22 commercial dive fisheries, but these were closed in 1997 due to low stock abundance.
23 Weathervane scallops also occur in Kachemak Bay and the outer coast; however, abundance
24 is low, historical harvests minimal and no recent permits have been issued.

27 **Disposals**

28
29 KBSP was created on May 9, 1970. KBSWP was created on March 9, 1972. When the
30 Alaska Legislature created KBSP and KBSWP, these lands were withdrawn from the public
31 domain and designated as special purpose sites under Article VIII, section 7 of the Alaska
32 Constitution. The land in the parks must be managed in accordance with the statutory
33 direction in AS 41.21.131-134 and AS 41.21.140-142, respectively. Because these are
34 legislatively designated lands, the state is prohibited from disposing of any real property
35 interests, including granting leases and easements, from within KBSP and KBSWP.
36 Legislatively designated lands cannot be sold, and thus the state must be cautious from
37 entering into agreements which could constitute a disposal of park lands.

38
39 In 2013, the Alaska Supreme Court in *SOP, Inc. v. Alaska*² held that a “non-revocable ATV
40 permit” created an easement and thus constituted an unconstitutional disposal of legislatively
41 designated lands. Given the *SOP* decision, the state must ensure its agreements and permits
42 do not result in impermissible disposals of state park lands. There are several examples
43 which reveal the scope of the concerns raised by *SOP*. In 2014 ADF&G finalized a twenty-
44 year operating agreement with Cook Inlet Aquaculture Association (CIAA) for Tutka Bay

² 310 P.3d 962 (Alaska 2013).

1 Lagoon Hatchery (TBLH). The agreement states that the parties would work towards
2 transferring the TBLH to CIAA. Additionally, the hatchery has extensive infrastructure and
3 its operational expenses are funded through cost recovery. These facts under *SOP* – may
4 suggest an impermissible disposal of state park lands.

5
6 In contrast, private property rights and utility easements that pre-date the park’s creation on
7 land lying within the statutorily-described boundaries of the parks do not implicate the *SOP*
8 decision. Park management decisions should respect these valid entries while implementing
9 statutory and regulatory park management mandates and protecting park resources.

12 Tutka Bay Lagoon Hatchery

13
14 After the creation of KBSP as a scenic park in 1970, the legislature in 1974 authorized
15 private, non-profit corporations to operate salmon hatcheries. The Tutka Bay Lagoon
16 Hatchery (TBLH) – located within KBSP – was constructed by ADF&G in 1975. ADF&G
17 operated the TBLH hatchery for 16 years as a state operated hatchery. In 1991, ADF&G
18 contracted management of the TBLH to the Cook Inlet Aquaculture Association (CIAA).
19 The current services agreement allows CIAA to operate the TBLH until 2031.

20
21 The hatchery cultivated sockeye salmon from 1976-1978 as well as in 1990, 1996, 1997, and
22 1999, and chum salmon from 1978-1990. Pink salmon have been cultivated since 1976 with
23 no releases occurring from 2005-2011. In addition to being released in Tutka Bay Lagoon,
24 pink salmon produced at this facility have been remote released at three locations in
25 Kachemak Bay: Halibut Cove (1986-1992), the Nick Dudiak Fishing Lagoon (1987-1992),
26 and Halibut Cove bight (2012). Remote releases of hatchery-produced sockeye salmon from
27 the Trail Lakes Hatchery have occurred within KBSP in China Poot Lake, Hazel Lake, and
28 Tutka Bay Lagoon for decades. These releases support both commercial and sport fisheries,
29 as well as the Kachemak Bay Personal Use Dipnet Fishery (5 AAC 77.545) that occurs in
30 China Poot Bay.

31
32 In 2013, CIAA applied for a DPOR permit to imprint pink salmon in net pens at the head of
33 Tutka Bay at a site approved by ADF&G. Over the course of several years and several
34 commissioners, various appeal decisions were issued about locating net pens in Tutka Bay.
35 These decisions provided different, and thus inconsistent, guidance about the appropriateness
36 of net pens in Tutka Bay. In 2019, CIAA submitted two permit applications. The first was
37 again seeking approval to place net pens in Tutka Bay. The second was to dispose of brood
38 stock carcasses (hatchery waste) in Tutka Bay. These applications were subsequently denied
39 by the DPOR Director. CIAA appealed both decisions to the Commissioner and in 2020 the
40 Commissioner denied both appeals. Because KBSP is a scenic park, the Commissioner
41 determined placing net pens in the open waters of Tutka Bay would be inconsistent with the
42 legislature’s reasons for setting aside the lands to create KBSP. The Commissioner also
43 determined 11 AAC 12.050 specifically prevents the disposal of waste in a state park, and
44 that there was no valid reason to allow CIAA to deposit such waste in KBSP. As of late fall,
45 2020, both of these decisions are being litigated in state court.

46

1 During the planning process, the public offered many comments on the hatchery and its
2 operations. Many suggested that the common property fishery arising from hatchery fish was
3 so minimal that the hatchery should be reclassified as a commercial operation, rather than a
4 state management operation designed to enhance fisheries. Concerns were raised that
5 moving the net pens outside Tutka Bay Lagoon degrades the scenic beauty of the park and
6 the quality of recreational opportunities and that the pens' associated discharges harm the
7 environment. Other concerns expressed included that the large number of pink salmon
8 produced at the hatchery clogs personal set nets; leads to straying far outside Tutka Bay;
9 impacts the food web, thereby depleting many marine species (including King and Tanner
10 crab, halibut, shrimp, herring, Pacific cod, clams, and mussels); and supplants wild salmon
11 genomes. Other commenters lauded the hatchery's cost recovery as good for commercial
12 fisherman and thought the hatchery complements the natural scenery.
13
14

15 **Homer Electric Association**

16
17 The HEA distribution line easements predate the park's formation; therefore, the easement
18 interest in the land is not part of the park. HEA utilizes helicopters for powerline
19 maintenance with landing sites located at intervals adjacent to distribution lines. DPOR
20 authorizes these temporary landing sites and support activities through special use permits.
21 In maintaining their lines, HEA faces environmental challenges including flooding and the
22 increased incidence of treefall due to spruce bark beetle infestations. HEA does not have
23 authorization to reroute or install new lines outside of their current easements.
24

25 In 2015-16, the Wosnesenski River spilled into Stonehocker Creek, which then began
26 flooding a section of the powerline easement in KBSP near China Poot Bay. This
27 compromised the powerline which serves Peterson Bay and Halibut Cove. In early 2019
28 DPOR permitted HEA to install a sheet pile dam to divert Stonehocker Creek away from the
29 easement. This temporarily dewatered the powerline corridor until Stonehocker Creek
30 breached the dam in July 2019 and water again flowed down the easement.
31

32 A review of available aerial imagery and on-the-ground reconnaissance reveals that electrical
33 lines have been constructed within KBSP. While Homer Electric Association's distribution
34 lines (and possibly others) predate the park, in some cases, lines appear to have been
35 constructed outside of existing easements, on park land.
36
37

38 **Division of Parks & Outdoor Recreation Facilities and Trails**

39
40 Park facilities include structures such as cabins, ranger stations, boat ramps, campgrounds
41 and marine docks to name a few. Often associated with these facilities are trail systems –
42 terra, snow, and water – that further facilitate public use in park units. A primary purpose of
43 a plan is to recommend facility and trail development to not only meet the current
44 recreational needs of the public, but also meet the expected potential recreational needs for
45 the 20-year period of the plan. Costs associated with construction, operation, and
46 maintenance were considered as a factor in recommending facilities and trails as were current

1 and desired recreational use patterns. This plan recommends those facilities and trails that
2 are consistent with the long-term vision for these units. In some instances, existing public
3 facilities are inadequate to accommodate even current use levels (which can lead to
4 degradation of park resources) or are situated in an area that no longer receives high levels of
5 agency or public use (e.g. Halibut Cove Lagoon Ranger Station). Facilities developed by
6 DPOR (when properly sited, designed, and developed) can accommodate use while at the
7 same time minimizing impacts to the surrounding environment or neighboring private
8 property.

9
10 Trails provide access for the public to enjoy scenic views, the wilderness quality, and other
11 resources and recreation opportunities within the park units. When viewed as a system in
12 concert with facilities, trails can greatly influence how and where the public chooses to
13 recreate. Currently, most public use of trails occurs at Grewingk Glacier and in the vicinity
14 of Halibut Cove and China Poot Lake. Much of the park units' interior or southern coast is
15 unreachable by trail, and is visited only by those willing to bushwhack or fly in. The existing
16 trails in certain areas are becoming more popular, and many could be upgraded to
17 accommodate increased use and different use types. Although higher class trails (e.g. Class 4
18 or 5 ADA-accessible terra trails) are suitable in some areas of the park units, they are not
19 appropriate in all areas. There is a desire from users for multi-use trails, paths that can
20 support "hut to hut" hiking between public use cabins, and trail networks that can
21 accommodate 2-3 day long backpacking trips. Many of the trails on published maps were
22 constructed long ago and have since fallen into disuse due to lack of maintenance. Multiple
23 users have discovered trails marked on published maps are impassable due to downed trees
24 and/or overgrown vegetation. Maintenance of existing trails is as important as construction
25 of new trails – otherwise the investment in the new trail is lost. In addition, maps of the park
26 units need to be updated to include changes to the trail system. For more on trails, see
27 Appendix E: Trail Plan.

30 Exxon Valdez Oil Spill

31
32 The 1989 Exxon Valdez Oil Spill (EVOS) directly impacted natural resources and the
33 subsistence, private, and commercial interests that depend on those resources. The EVOS
34 Trustee Council was formed to oversee ecosystem restoration through the use of a \$900
35 million civil settlement. The Council consists of three state and three federal trustees (or
36 their designees); and is advised by members of the public and the scientific community.
37 When EVOS funding has been used to acquire lands for habitat protection, conservation
38 easements that restrict land use are routinely included. Parcels that were purchased through
39 EVOS funding and are being managed as part of the state park system include Overlook Park
40 and Diamond Creek State Recreation Sites. Management of these lands must be consistent
41 with conservation easements associated with the land.

1 Fees, Park Pass, and Visitor Use Management

2
3 User fees (commercial and visitor) play an important role in funding continued development
4 and maintenance of state park facilities. In the face of fiscal budget concerns, there have
5 been suggestions for the park to become more self-sufficient through adjustment and
6 expansion of DPOR’s fee collection system. Per AS 41.21.026, DPOR may not collect a fee
7 for ordinary use of a park unit or a restroom within a park unit. DPOR may charge fees for
8 parking (if restrooms are also available), camping, boat launching, admission to visitor
9 centers and historic sites, sale of certain merchandise, and overnight lodging rentals such as
10 public use cabins. DPOR may also charge for commercial use permits and special park use
11 permits.
12
13

14 Spruce Bark Beetle Infestations

15
16 During the 1980s and 1990s, the spruce forests of Kachemak Bay’s watershed experienced a
17 large spruce beetle outbreak – part of an infestation that resulted in the death of over
18 2.3 million acres of spruce on the Kenai Peninsula. These vast acres of dead trees changed
19 the uplands habitat, the hydrology of rivers and streams, and affected the diversity and
20 distribution of wildlife inhabiting the parks. The large number of standing and fallen dead
21 trees throughout the park post-outbreak presented a significant maintenance, public safety,
22 and fire hazard mitigation challenge. Despite a major, ongoing outbreak in other areas of
23 Southcentral Alaska that began around 2016, recent survey data suggests that spruce beetle
24 populations are at endemic levels on the southern Kenai Peninsula.
25
26

27 Invasive Species

28
29 Presidential Executive Order 13112 defines an “invasive species” as a nonnative species that
30 causes or is likely to cause economic or environmental harm or harm to human health.
31 Invasive species can change ecosystems by altering habitat composition, increasing wildfire
32 risk, competing with native species for food and territory, changing existing predator/prey
33 relationships, reducing productivity, or otherwise disrupting natural habitat functions.
34
35

36 Management

37
38 ADF&G is responsible for management of fisheries, wildlife and habitats – the agency
39 strives to protect native fish and wildlife and their habitats from the impacts of invasive
40 species. DNR has management responsibility for terrestrial and freshwater plants. As
41 appropriate, the two agencies collaborate to safeguard Alaska ecosystems from aquatic
42 invasive species. Management of specific invasive species occurs based on decisions of
43 priority and available resources. There are many non-native species present in Alaska.
44

1 ADF&G and DNR will prioritize management of an invasive species when it is proven to
 2 cause significant negative impacts on native species or habitats, and management is
 3 determined to be feasible.

4
 5 The Kenai Peninsula Cooperative Weed Management Area (KP-CWMA) is a partnership
 6 dedicated to preventing the introduction and managing the spread of non-native, invasive
 7 plants across the peninsula. Through a signed cooperative agreement, relevant and interested
 8 agencies, organizations, tribal landowners and other groups work together to develop
 9 management objectives, set realistic priorities, and facilitate effective treatment. The KP-
 10 CWMA strategic plan outlines the strategic, landscape approach to invasive species with an
 11 emphasis on early detection and rapid response to specific invasive plant species.

14 Spruce Aphid Invasion

15
 16 In 2015, the spruce aphid, a nonnative insect originally from Europe, was documented to
 17 have caused extensive Sitka spruce defoliation in Halibut Cove and to a lesser extent in
 18 Homer. The outbreak extended completely around Kachemak Bay by 2016 and had subsided
 19 by 2017. Spruce aphid outbreaks commonly occur following mild, relatively warm winters
 20 and can quickly crash if winter temperatures are cold enough. The aphids begin actively
 21 feeding and reproducing in early spring. Individual needles initially show yellow mottled
 22 blotches where aphids are feeding and eventually turn reddish-brown and drop, leaving
 23 infested parts of the tree without foliage. In Alaska, spruce aphids occur only in forests
 24 adjacent to the coast and have thus far only been found within the range of Sitka spruce in the
 25 state. Infested trees can often recover from spruce aphid-caused defoliation.

28 Invasive Terrestrial Plants

29
 30 While not all are confirmed to exist in the parks, these are the ten most harmful species of
 31 invasive plants that are within, or currently threaten, the parks. They all would damage
 32 native habitat and are listed from most harmful to less harmful:

- 34 • Japanese Knotweed (*fallopia japonica*)
 35 *One infestation in Seldovia is currently being contained – no other known infestations*
 36 *in Kachemak Bay*
- 37 • Reed Canary Grass (*phalaris arundinacea*)
 38 *Abundant near Homer; present in Seldovia and at Bradley lake; and possibly exists in*
 39 *park areas across the bay*
- 40 • White Sweet Clover (*melilotus alba*)
 41 *Only known infestation is at Bradley Lake Hydroelectric Site*
- 42 • Orange Hawkweed (*hieracium aurantiacum*)
 43 *Common in Homer and Seldovia; reported in Cottonwood-Eastland, Diamond Creek,*
 44 *Bradley Lake, and at Tutka Bay near the hatchery (where CIAA is treating it)*

- 1 • Canada Thistle (*cirsium arvense*)
2 *Only two known populations are along East End Road*
- 3 • Bull Thistle (*cirsium vulgare*)
4 *Seldovia only*
- 5 • European Bird Cherry (*prunus padus*)
- 6 • Chokecherry (*prunus virginiana*)
- 7 • Bird Vetch (*vicia cracca*)
8 *May have been eradicated near Homer*
- 9 • Common Tansy (*tanacetum vulgare*)
10 *A few infestations in Homer & Seldovia*

11
12 Many more harmful and aggressive invasive plants may be introduced into the parks in the
13 future but have not yet arrived. There are also many less-damaging invasive plant species
14 threatening or existent within the parks. Dandelions are present in all park units near Homer
15 and in the Upper Hazel Lake area (and likely other areas); plantain and buttercup have been
16 recorded in park areas across the bay; and several species of yellow hawkweed have been
17 reported in Homer, Seldovia or Bradley Lake.

18
19 Managing vectors by cleaning boots, gear, equipment and vehicles is critical in preventing
20 the introduction and spread of invasive plants. After prevention activities, early detection
21 and rapid response is considered the next highest priority to mitigate the introduction and
22 spread of invasive weeds. This approach, as defined by the National Invasive Species
23 Council, is the most effective means for eradicating invasive species and is intended to be the
24 keystone of invasive plant management within the parks.

25 26 27 **Aquatic Invasives**

28
29 In 2002, ADF&G prepared the Alaska Aquatic Nuisance Species Management Plan to
30 address the threat invasive species pose to the aquatic ecosystems of the state.

31
32 Japanese skeleton shrimp (*Caprella mutica*) is the only verified record of an invasive aquatic
33 species in Kachemak Bay or other park areas. Although elodea and northern pike are present
34 in the waters of Kenai National Wildlife Refuge (KNWR), they are not known to occur in the
35 parks. European green crab are not yet known to occur in Alaska. They are of concern
36 because invasive populations in the Pacific Northwest, as far north as British Columbia, are
37 expected to expand their range into Alaska waters where they could have detrimental impacts
38 on native crabs and their habitat. Eelgrass beds, which European green crab populations
39 decimate, are important in the nearshore ecosystem as they provide shelter and foraging
40 habitat for salmonids, and spawning surfaces for Pacific herring.

1 **Other Nonnative Species**

2
3 Rock doves, starlings, and house sparrows are invading the parks (and other areas of Alaska)
4 and may be endangering native bird species. The following feral, nonnative game birds have
5 been detected within or near KBSP: Bobwhite quail (*colinus virginianus*), Chukar partridge
6 (*alectoris chukar*), Hungarian partridge (*perdix perdix*), Ring-necked pheasant
7 (*phasianus colchicus*), and Wild turkey (*meleagris gallopavo*). Coyotes are also present in or
8 near park areas. ADF&G knows of no assessment demonstrating that these species cause
9 negative environmental, economic or human health impacts in Alaska. Thus, while these
10 species are non-indigenous, at this time they do not fit the definition of “invasive species” as
11 previously described.
12
13

14 **Land and Water Conservation Fund**

15
16 The Land and Water Conservation Fund (LWCF) is a federal grant program that is
17 administered by the National Park Service (NPS). LWCF provides matching funding to state
18 and local governments to acquire, develop, and plan for public outdoor recreation areas. In
19 Alaska, DPOR is the government agency that disperses federal grant dollars under this
20 program. LWCF provisions require the agency receiving the grant dollars to maintain the
21 funded project for public use and must identify and reserve enough area around the project to
22 ensure continued public use. The boundary for the reserved lands is included on a map that
23 is mutually agreed to by the State and the NPS. Any property where LWCF funds have been
24 expended may not be wholly or partly converted to anything other than public outdoor
25 recreation uses without the prior approval of the Secretary of the U.S. Department of the
26 Interior. If for some reason the recreational nature of the property is lost, it represents a
27 conversion of use requiring mitigation in the form of acquisition of other recreational
28 properties or outdoor recreational enhancement as approved by the National Park Service.
29 The process to convert LWCF-protected lands can be lengthy and costly for the agency
30 requesting the conversion.
31

32 The entirety of both KBSP and KBSWP are subject to LWCF program provisions. Actions
33 that may represent a conversion of use include installing above-ground utilities; development
34 of roads with a non-recreational primary purpose; development for private purposes; or
35 encroachments such as driveways.
36
37

38 **Park User Trespass**

39
40 Trespass onto private lands can create conflict between park users and landowners. Whether
41 unintentional, or with knowledge of the recreationist, use of private property by visitors to
42 the park units has occurred, but this type of use should be curtailed.
43
44

1 **Private Structures and Uses**

2
3 There are nearly 150 private parcels adjacent to the park units and over 200 private parcels
4 bounded within the park units. (This includes the state and wilderness parks and the park
5 units on the north side of Kachemak Bay.) Private parcels are generally five acres or less in
6 size and many are located along prime areas of the coast. Most of these parcels predate the
7 establishment of the park and were obtained through state and federal land disposal
8 programs. Private inholdings present potential areas of conflict between park users, park
9 management, and private landowners regarding management practices, policies and the
10 development of park facilities. The largest communities are Halibut Cove and subdivisions
11 in Peterson Bay, Petrof View, and Bear Cove. There are also some private inholdings on the
12 coast of Tutka Bay and Sadie Cove.

13
14 DPOR has identified many unauthorized structures that may have been placed, constructed,
15 or maintained in a park unit without a special park use permit issued under 11 AAC 18.010.
16 A more detailed review of many of these structures in relation to property boundaries is
17 warranted prior to contacting the upland owner to determine a corrective action. Other
18 structures, such as docks or water collection and storage structures, that are clearly within a
19 park unit will not need to undergo further review before a corrective action is determined.
20 Similarly, some uses are occurring within park units that are prohibited or need to be
21 authorized before they are conducted. These include gathering firewood for use at adjacent
22 private property, riding a bicycle off a road or parking area, or using hand tools to clear trails,
23 to name a few. In some instances, DPOR may not be able to authorize structures or other
24 permanent modifications to park resources. In these instances, DPOR will notify the owner
25 of record of the prohibited structure and work with the owner to rectify the issue.

26
27 Based on a 2004 survey by ADF&G, over 1000 docks, buoys, piers, walkways, and other
28 types of mooring and access structures have been constructed, placed, or maintained on tide
29 and submerged lands below mean-high-waterline within the Kachemak Bay Critical Habitat
30 Area (KBCHA); some of these structures were also located within KBSP. Many of these
31 structures required authorization by both DPOR and ADF&G prior to their construction or
32 placement, but in many cases, this has not been completed. Without a permit, these
33 constitute an unauthorized encroachment upon park waters and can be a safety issue. In
34 2015, ADF&G conducted an outreach effort, which resulted in permit renewals for a number
35 of docks throughout the KBCHA.

36
37 Many private parcels have unplanned and informal social trail networks connecting private
38 land to the park. While relatively minimal in nature, many of these trails extend onto DPOR
39 managed lands and connect to existing hiking trails. These trails invite use by the public –
40 most have not been developed to sustainable trail standards and may be contributing to
41 degradation of park resources.

1 **Visitor Safety**

2
3 Recreating anywhere in Alaska’s frontcountry and backcountry comes with inherent risks.
4 Weather, terrain, wildlife, earthquakes, tsunamis, availability of communications, trail
5 conditions, and travel logistics are just a few of the possible variables that visitors to KBSP
6 and KBSWP should prepare for. People are encouraged to research the conditions they are
7 likely to encounter in the area where they are planning to recreate. Visitor safety is important
8 to DPOR and up-to-date information is usually provided through websites, social media, or
9 email.

10
11
12 **International Dark Sky Park Designation**

13
14 The dark-sky movement works toward a reduction in light pollution. Reduced light pollution
15 saves energy and reduces negative impacts on nocturnal animals and on human circadian
16 rhythms. Light pollution can be greatly reduced through usage of light fixtures that cast less
17 light upward. In order to better promote dark skies, DPOR staff should pursue an
18 International Dark Sky Park designation from the International Dark-Sky Association. This
19 organization assists in light pollution reduction and has recognized parks around the globe
20 as International Dark Sky Parks.

21
22
23 **Climate Change**

24
25 Kachemak Bay water temperatures have been warmer than the long-term average since early
26 2014. Oceanographic surveys documented significant warming of the entire water column of
27 the bay during the 2014-2016 Pacific marine heat wave and again in 2019.

28
29 While rising sea levels are a global concern, Kachemak Bay is somewhat protected from sea
30 level rise for the foreseeable future. This is due to land levels around Kachemak Bay rising
31 more quickly than sea level. This land-level rise is caused both by isostatic processes (loss of
32 ice in glaciers and icefields) and tectonic processes (the tectonic plate the area sits on rising
33 as plates collide). The land-level uplift around Kachemak Bay is currently around 8.6 mm
34 per year, while global sea-level rise is around 3.2 mm per year.

35
36 Glaciers feeding into Kachemak Bay are rapidly retreating. Grewingk Glacier, for instance,
37 has retreated nearly 2 miles since the early 1950s. This ice melt during the summer produces
38 a strong fresh-water signal in the surface waters of Kachemak Bay, even during periods of
39 little to no rain. The surface waters of Bear Cove and off the end of the Homer Spit remained
40 relatively fresh in August of 2019, even though there was almost no rain during that time
41 period. Research underway in 2019 will help assess the contribution of fresh water and
42 nutrients entering the bay from melting glaciers.

INTENT TO ADOPT

1 Coastal erosion is an ongoing concern in the Kachemak Bay area, although it is more
2 significant on the north side of the bay, which consists of softer sedimentary rock than the
3 south side. Increasing frequency and magnitude of storms associated with climate change
4 may increase erosion problems on the north side.

5
6 Ocean acidification is a concern for Kachemak Bay marine resources. KBNERR's SWMP
7 data shows a potential trend of decreasing pH at all four long-term water quality monitoring
8 sensors.
9

1
2