OUTDOOR ETHICS & SEA SCOUTING

A GUIDE TO MINIMIZING YOUR IMPACTS

Scouting America

The Outdoor Code, with supporting text for Sea Scouts

As an American, I will do my best to:

- **Be Clean in my outdoor manners.** A Sea Scout treats the outdoors as a heritage that is treasured and preserved for the future. A Sea Scout keeps waste like litter, unused food, chemicals, and body wastes out of our waterways and packs it out to dispose of it properly. A Sea Scout never engages in graffiti or vandalism such as carving initials or defacing outdoor areas.
- **Be Careful with fire.** A Sea Scout uses fire only when allowed and only when it is safe and non-damaging to the environment to do so. Often, a Sea Scout may use a stove or a grill instead of making a ground fire. A Sea Scout is also careful of other impacts, such as leaving food out that may disrupt animal eating patterns, contributing to erosion by cutting a switchback or whittling or chopping live trees. A Sea Scout is careful of our nation's cultural heritage, leaving artifacts undisturbed and preserving our recreational resources for all to use and enjoy.
- **Be Considerate in the outdoors.** A Sea Scout treats the land and water and everything that lives, grows and plays on the land and water with respect. This means not just fellow Sea Scouts, but also other visitors and the plants, animals, and ecosystems that make up the land. A Sea Scout observes animals, but does not disturb them or scare them from their nests or foraging. A Sea Scout avoids trampling delicate plants to preserve them for others to view and for the insects and animals that depend upon them.
- **Be Conservation-minded.** A Sea Scout observes the land, animals, and plants in the environment. A Sea Scout seeks to understand how they interact with each other. A Sea Scout is vigilant in watching for injury to the environment and reporting it to those who can stop it. A Sea Scout never passes litter without picking it up. A Sea Scout works to restore the health of the land so that others also can enjoy, live, and learn from it.

OUTDOOR ETHICS & SEA SCOUTING:
A GUIDE TO MINIMIZING YOUR IMPACTS

1st Edition, July 2025

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Forward

As more people engage in a wide range of water activities, such as inshore and coastal sailing, canoeing, kayaking, windsurfing, angling, power boating, surfing, jet skiing, scuba diving, and cruising, our collective impact on various aquatic environments increases.

This resource guide highlights how Outdoor Ethics has as much a significant application to our seas, rivers, canals, and lakes as to our mountains and forests. “Outdoor Ethics and Sea Scouting: A Guide to Minimizing Your Impacts” builds upon the knowledge available in the Sea Scout Manual to answer questions surrounding the “whys” behind the need for an Outdoor Ethics perspective. It also establishes the groundwork needed to assist Scouts through the Outdoor Ethics Awards for Sea Scouts. Even the most thoughtful visitors can “leave a trace” and unintentionally impact water resources.

Examples of impacts by recreational activities on the water include:

- Accelerated erosion of banks and shores
- Trampled aquatic vegetation
- Damaged riparian areas
- Polluted waters (fuel spills, waste water, waste food)
- Degraded recreation experience for others through noise, inappropriate activities, disturbing others with wakes of craft
- Blocked slipways with equipment or vehicles
- Littered areas
- Impacted aquatic wildlife – including displacement of species or spread of invasive species

By learning how to manage our recreational impacts to actively protect the environment, Sea Scouts can ensure the health of the ecosystems they enjoy while promoting responsible stewardship of natural resources.

A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.” Aldo Leopold

Leave No Trace Seven Principles:

With supporting text and bullet points selected for the Sea Scout program

Principle 1. Plan Ahead and Prepare

Planning ahead is an important principle of Leave No Trace. Proper planning means thinking through all of the things that you may need or that may go wrong while on boat outings. Proper preparation reduces the need for you to adapt in the moment, and reduces potential for unplanned impact. We can look at each of the other principles and see how planning ahead can help address it.

- Know the regulations and special concerns for the areas you'll visit.
- Prepare for extreme weather, hazards, and emergencies. Watch the weather closely for sudden changes during your trip.
- Plan your outings to avoid times of high use such as weekends and holidays.
- Leave a float plan with your onshore contact and use only a well-maintained vessel with the proper U.S. Coast Guard approved safety equipment.
- Have the appropriate skills and abilities, local knowledge of the water resource, and the necessary equipment to minimize your impacts.
- Check the charts, weather, and tides. Schedule your trip so that you encounter appropriate water flows for your trip.
- Use reef-friendly products to protect against sunburn and insect bites.

Principle 1 Interpretation:

Environmental Impacts

Not planning ahead when on boat outings (or engaging in any other outdoor activity) can lead to a range of negative environmental impacts, including increased resource consumption, habitat disruption, soil erosion, pollution from litter, damage to sensitive ecosystems, disturbance of wildlife, and not managing waste effectively.

Failure to plan ahead may decrease your enjoyment of the activity, increase safety risks on water, increase exposure to harmful elements, or cause you to abandon the activity for lack of proper gear. At worst, failure to plan ahead may lead to costly rescue efforts. In these cases, the rescuer's top priority is your safety, not the impact they are making on the environment.

Safety-Related Statistics

The U.S. Coast Guard issued a press release in early 2024 detailing 2023 boating statistics. The (2024) report highlighted that:

- In 2022, there were a total of 636 fatalities and 4,040 overall incidents. These numbers decreased in 2023 to 564 fatalities and 3,844 incidents, a drop of 11.3% and 4.9% respectively.
- The number of non-fatal injuries decreased from 2,222 to 2,126, a decline of 4.3 percent.
- In 2023, alcohol was the leading known contributing factor in fatal boating accidents, responsible for 17% of total fatalities, which equates to 79 deaths.
- The number of deaths per 100,000 registered recreational vessels decreased 9.3 percent from 5.4 in last year's report (2022) to 4.9 this year (2023). When the Safe Boating Act was initially passed in 1971, the fatality rate was 20.6 deaths per 100,000 registered recreational vessels.
- The total cost of property damage reached $63 million.
- The primary contributing factors in accidents were: operator inattention, improper lookout, operator inexperience, excessive speed, and machinery failure. The press release concluded that the deaths occurring in 2023 predominantly occurred where the operator wasn't properly trained or where operator or passengers weren't properly equipped.
    - These deaths occurred in the majority on recreational craft, and accounted for 75% of the fatalities in 2023.
    - Of the deaths, 75% were drownings, and 87% of the drowning victims were not wearing life jackets.

Principle 2. Travel and Camp on Durable Surfaces

Avoid Bottom Impacts: Water is one of the most durable surfaces we can travel on, but we often don't consider what is just below the surface, or at the spots we transition from land to water.

- Durable surfaces include water body surfaces**,** rocks, gravel, and sand.
- Protect riparian areas.
- Be aware of sensitive habitats such as coral reefs, tide pools, and vegetated dunes.
- Avoid anchoring on hard-bottom or in seagrass. Use mooring buoys when available.
- Enter and leave water resources at established launch sites.
- Use a tide chart to establish the high & low tide marks for that day.
- Stay in navigable waters or operate slowly and use a depth finder.
- Minimize your boat wake according to local regulations.

Principle 2 Interpretation:

Environmental Impacts

Entering and leaving the water

The biggest impacts we have on sensitive surfaces occur during the transition from land to water or water to land. Use designated durable landing spots when they are available. Be careful of sensitive shoreline ecosystems. Dunes with grasses and other vegetation should be avoided, in some cases the plant growth holds the dunes in place. The egg, larval, and fry phases in aquatic animal life living in the transitional zones between water and land are often sensitive and fragile and can be easily hurt or killed. When designated landing spots are not available, avoid creating new launch and landing spots; if you can see a spot where someone else transitioned, you should use the same spot to concentrate impact to a smaller spot.

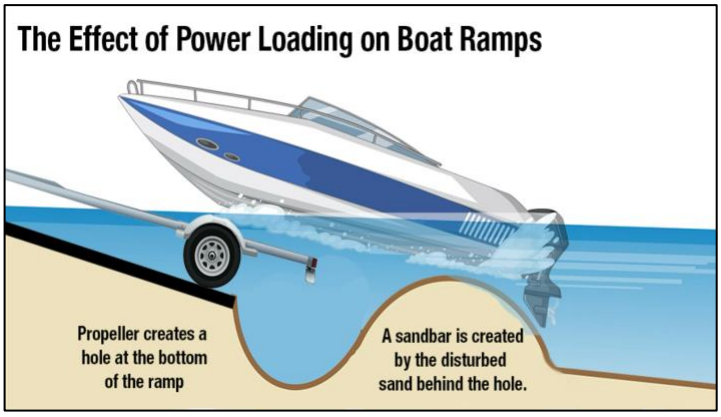

Image: composite from assets at freepix.com.

Power loading

Power loading is the practice of using engine power to transition your boat from the water onto your trailer. The repeated impact of propulsion against the bottom of the waterway changes the shape of the landing, which may cause damage to the ramp and make it harder for others to use the landing.

Reef and Shallow Ecosystems

The floor of waterways can contain fragile ecosystems. Familiarizing yourself with the waterways you use will help you avoid non-durable waterways.

“Keep your bottom off the bottom!” Fragile habitats like coral reefs, seagrass beds, and other sensitive plant and animal life often lie just below the surface. Avoid contact with the waterway floor and use a mooring buoy.

Coral should be avoided entirely. Standing on, kicking, or simply touching coral (even once!) may damage or even kill coral.


Image: Jjharvey8 (2013)

Rescuing the Reef

In 2019, the Sea Base built a nursery with multiple tanks to house several coral species, including endangered species. Corals are marine animals related to jellyfish and sea anemones. They live in large groups, creating hardened protective structures called reefs.

Since 1980, about 90% of the coral reefs in the Florida Keys have died from warming temperatures, ocean acidification, and diseases. Partnering with area conservation groups, the Sea Base staff started a restoration process called micro-fragmentation. When coral polyps are cut into pieces, it stimulates their growth — more than 25 times faster than their natural rate. Using this method, coral reefs can be restored faster. In Sea Base's Marine STEM and Scuba Advanced Marine Exploration adventures, Scouts have already begun helping in the process.

In the Marine STEM adventure, Scouts take part in the micro-fragmentation process for stony coral or large bouldering coral. In the Scuba Advanced Marine Exploration, which partners with a coral restoration institution by using its underwater nursery and coral, Scouts work on fragmenting branching coral and then planting the fragments upon an assigned reef.

With the Scouts' efforts, these corals will hopefully survive and thrive for hundreds of years.

Scouts at the Sea Base work to rescue Florida's coral reefs.
Image: Scouting America

Discover how your unit can plan an adventure at Sea Base. More than 120 CBS News affiliates around the country have now shared the story of Scouts at the Sea Base and their efforts to help rescue and restore Florida's coral reefs.

Read More about the Sea Base Reef Restoration Story

- Earth Day: Boy Scouts Helping To Regrow Florida's Vulnerable Coral Reefs: https://tinyurl.com/cbsreefstory
- Sea Base Brinton Environmental Center (BEC) Core Reef Restoration Story: https://tinyurl.com/SeaBaseCoralRestoration

Wake Boating for Tow Sports (waterskiing, wakeboarding, kneeboarding, tubing, etc.)

No wake zones are established to protect the shorelines, waterway bottoms, and other users. Knowing and following area use designations will help avoid unnecessary impacts.

What is the environmental impact of wake boats?

Just one pass of a wake boat can seriously harm an ecosystem. Multiple passes in the same area can cause lasting damage to shorelines, water quality, and lake bottoms. Wake boats wear away fragile shorelines if they travel too close to shore, where the waves don't have space to settle. These waves can also harm docks, swamp nearby boats, put swimmers at risk, and destroy waterfowl nesting areas. The downward push of the propeller wash from wake boats stirs up sediment, releasing phosphorus and nitrates back into the water which can lead to algae blooms. The stirred-up sediment also warms the water, making it harder for native plants and animals to survive. Native plants can be torn out and fish nests destroyed.

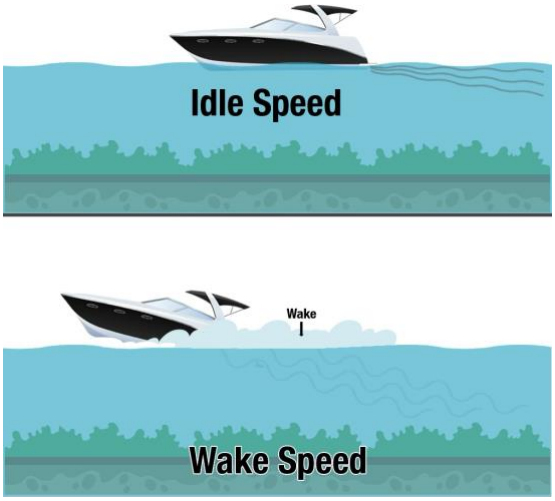

Image: composite from assets at "freepix.com"

Image: "bewakeaware.com"

Aquatic Invasive Species (AIS) are drawn into ballast tanks along with lake water. Since these tanks are hard to clean, AIS can spread to other lakes and rivers. Until the boating industry develops better ways to clean these tanks, wake boats will keep spreading AIS.

Environmental Statistics

Aquatic Invasive Species

Wake boats, with their large ballast tanks, can help spread harmful aquatic invasive species (AIS) and fish diseases. Studies show that these tanks carry many more invasive species than other parts of the boat. Even when emptied, the tanks may stay damp, allowing AIS to survive for a long time. The waves and turbulence caused by wake boats can also make it easier for invasive plants to spread.

A 2015 report by the Water Sports Industry Association (WSIA) states that wake boats

only cause issues if they are within 200 feet of the shore. The study does not say anything about how deep the water needs to be. A 2022 study found that boats made for wakesurfing make much bigger waves than regular boats. The study also found that the waves from wakesurfing boats need to travel more than 500 feet before they get as small as the waves from regular boats. This means that the current suggestion of staying 200 feet from shore is not enough based on the study's findings.

Boats should stay at least 1,000 feet away from the shore and in water that's at least 15 feet deep. This helps to reduce erosion and prevent the disruption of sediment.

Wakesurf boats produce significantly larger waves than non-wakesurf boats, with maximum wave heights 2-3 times larger, total wave energies 6-9 times larger, and maximum wave powers 6-12 times larger.

Impact of Wake Boats to Aquatic Plants

Wake boats create big waves that can damage plants and disturb the bottom of lakes. This can cause problems for the entire lake, flora, and fauna that live there.

Take the Pledge to be a Clean Boater

Established in 2001, the Clean Boater Program is a derivative of the Florida Department of Environmental Protection's Clean Vessel Act pump out grant program. It seeks to involve boaters in protecting Florida's waterways through education on the importance of protecting the state's native vegetation, wildlife, and natural environment.

…Boaters are encouraged to take the **Clean Boater Pledge** and educate other mariners on the importance of protecting the environment.

The pledge can be found at https://floridadep.gov/CleanBoater

Principle 3. Dispose of Waste Properly

- Know about waste disposal regulations for the body of water you are traveling and make plans to follow them.
- Know if your waterfront locations offer restroom facilities. If the facilities are not available, plan to take along toileting options.
- Utilize self-contained portable toilets or marine sanitation devices for human waste. Check local regulations for disposal of stored waste.
- Pack out used toilet paper and feminine hygiene products.
- Liquid human waste and filtered grey water can be packed out or dumped into large bodies of water or waterways with currents of high volume (over 500 cfs).
- In low volume water resources scatter liquid waste on land 200 ft. from the water. Check and follow local regulations.
- Repackage food to minimize waste. Pack out all trash and food waste.

- Check local regulations before disposing of fish entrails, crustacean carcasses, and mollusk shells into water resources.
- Pack out all fishing line waste. Leftover live bait and bait cups should be disposed of according to local regulations.

Principle 3 Interpretation:

Environmental Impacts

Image: Sparkle Motion (2014)

Trash, particularly plastic, poses a significant threat to marine environments. It accumulates in rivers and oceans, harming habitats, transporting pollutants, and endangering wildlife. Plastic debris is especially harmful as it breaks down slowly, is ingested by animals, and can lead to starvation and the concentration of toxic chemicals in their tissues. The accumulation of debris also alters habitats, reduces light and oxygen levels, and disrupts the delicate balance of aquatic ecosystems. Addressing plastic pollution is crucial for protecting marine life and ensuring the health of our oceans.

Environmental Water Pollution

The 2025 Sea Scout Manual discusses disposal of oil, hazardous materials, plastics and garbage, sewage, gray water, and refueling in depth, in the *Environment* section, starting on page 282, and Fueling procedures on pages 66-67. Please refer to the Sea Scout Manual for further information about these topics.

Environmental Statistics

The amount of plastic debris in the ocean is astounding, with trillions of pieces and tons of plastic littering the surface and deep sea. Although these statistics are useful in raising awareness of the problem, the science of sea trash still has many questions to answer. Scientists are working to understand the impact of ocean plastics.

Image: "Wavy_boats" (2024)

Principle 4. Leave What You Find

Image: StopAquaticHitchhikers.org, (2024)

- Load your camera, not your boats. Take only pictures and leave only bubbles while diving or snorkeling.
- Preserve the past. Observe but do not touch, alter, or remove historical, archeological, paleontological structures, or artifacts.
- Leave rocks, shells, and other natural objects as you find them.
- Avoid introducing or spreading invasive or non-native aquatic species (zebra mussel, aquatic weed, invasive species and plant life, etc).
- Clean watercraft or waterborne vessels' hulls, equipment, fishing, scuba, snorkeling, and other gear (livewells, bilge water, transom wells, bait containers, bait tanks) before and after every trip, and when moving to different water bodies.

Principle 4 Interpretation:

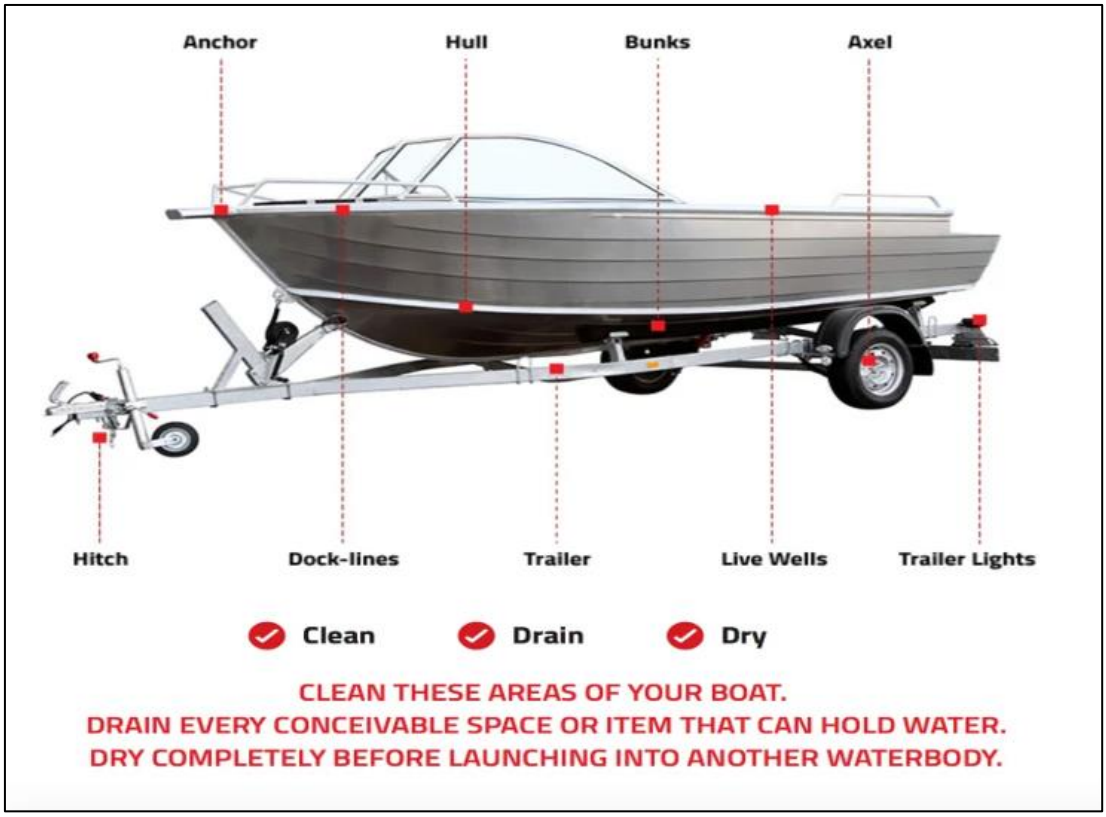

Image: StopAquaticHitchhikers.org, (2024)

Environmental Impacts

Case Study: Invasive Zebra Mussel

Images: StopAquaticHitchhikers.org, (2024)

Images: StopAquaticHitchhikers.org, (2024)

Zebra mussels attach to almost any surface, including sand, silt, and harder materials. In silty areas, other mussel species are often the most stable objects, and zebra mussels latch onto them, often leading to their death. Researchers have seen native mollusk populations collapse within four years of zebra mussel colonization. Invasive Zebra mussels could reduce native mussel species by up to 50% in the next decade, potentially causing the extinction of as many as 140 species. (Wikipedia, 2024)

Case Study: Japanese Sea Squirt

The Japanese Sea Squirt, or “marine vomit,” (Didemnum vexillum) is thought to have been transported from Japanese waters on ship hulls or in ballast water. It was first discovered in Ireland in 2005 at Malahide Marina, Dublin, by aquatic invasive species expert Dr. Dan Minchin. Since then, he and his team have tracked it to Carlingford Lough (Co Louth), Strangford Lough (Co Down), Clew Bay (Co Mayo), and Galway Bay. One of the most severe infestations is on George’s Bank, located between Canada and the U.S. in the northwest Atlantic, where it covers roughly 200 square kilometers. This area, once a key spot for scallop fishing, is now covered by the acidic “compound tunicate,” which prevents scallop larvae from surviving. (Leave No Trace Afloat, 2021).

Image: Xavier Turon (CEAB-CSIC)

Aquatic Nuisance Species

Aquatic Nuisance Species (ANS) are waterborne, non-native organisms that harm ecosystems and native species. They can damage both natural environments and recreational activities and are spread by boats and other marine equipment. You can

prevent their spread by learning to identify ANS, reporting sightings to natural resource agencies, and cleaning all equipment and clothing after leaving a body of water. Never release live bait into the water. By following these steps, we can protect our waterways from the harmful effects of ANS. For more details, see the 2025 *Sea Scout Manual* on pages 285-286.

What is an invasive species?

Any organisms which don't naturally occur in an ecosystem, whether introduced by humans or through other natural causes are considered invasive. These species often don’t have natural predators, can displace native species, disrupt food webs, and alter habitats. This damage leads to a loss of biodiversity and weaker ecosystems.

Invasive species are spread through ballast water in ships, escape from fish farms, released pets and plants, and the movement of goods. They cause ecological damage by upsetting the balance of nature, economic damage through crop loss, infrastructure harm, and costly removal efforts, and pose risks to human health. Prevention, with early detection and quick action, is critical to stopping new invasions. Strategies like physical removal, chemical treatments, biological control, and habitat restoration can help manage invasive species impact once they have established themselves.

Environmental Statistics

Aquatic invasive species can have significant environmental impacts. Not only can they cause economic losses, but they also disrupt and contribute to biodiversity loss. Estimates suggest that invasive species are responsible for up to 70% of native aquatic species extinctions in this century, impacting a large portion of endangered species as well. Many of these costs are attributed to invertebrates, with the greatest impacts observed in North America and Asia. (Cuthbert, 2021)

- The global economic impacts are estimated at hundreds of billions of dollars. (Cuthbert, 2021)
- Invasive species are linked to extinction. Experts estimate that 70% of recent extinctions are caused by invasive species. (EPA 2024)
- A large percentage (around 42%) of currently listed endangered species are significantly impacted by invasive species. (EPA 2024)
- North America is considered to have the highest reported costs related to aquatic invasive species, followed by Asia. (Cuthbert, 2021)
- Ballast water from ships is a prime cause for the introduction of aquatic invasive species, facilitating the transport of numerous non-native species around the globe. (EPA 2024)
- As much as 10 billion tons of ballast water is moved around the world per year, carrying up to 7,000 species of aquatic plants, microbes, and animals every hour of every day (GEF-UNDP-IMO, 2017).

Principle 5. Minimize Campfire Impacts (Coastal/Beach)

Building a beach fire on sand is not necessarily harmful, considering that sand is a

surface that is more durable than organic soil. However, it is not always recommended because fires often leave the area aesthetically unpleasing and unsightly. Always extinguish a beach fire with water and check for remaining embers before leaving to ensure safety. Extinguishing a beach fire with just sand can trap heat and embers, posing a hidden danger. Before lighting any fire, check local laws and beach regulations regarding beach fires and consider whether the fire is truly necessary

Here are general concepts that should be considered to minimize campfire impacts on beaches.

Image: itoldya420 (pixabay.com 2016)

- Fires should be placed below the vegetation line and below the high-high tide line so that the fire scar will be washed away.
- A gravel bar or beach campfire is made by excavating a shallow depression (3' x 3' x 2 ') in the sand or gravel to contain your fire. Don't forget to fill the hole back in once you are finished with your fire to eliminate someone falling into it.
- The preferred source of firewood is driftwood, especially milled lumber. Not only is this source an unnatural component of the coastal environment, it also burns better than most other wood when wet.
    - Avoid painted, laminated or creosote treated wood pieces because they emit toxic fumes when burned.
    - Milled wood of larger sizes can be used if cut with a small saw, then split with an ax, or hatchet. visit. If you are traveling by boat, it may be possible to carry the extra kindling you create. This dry supply of ready-to-use fuel can be especially beneficial in foul weather or on beaches without an adequate wood supply.
    - Natural driftwood should be no larger than an adult's arm and gathered from below the beach's vegetation line. Burn firewood down to white ash. Scatter the ashes. Don't leave partially burned wood on the beach or in

the water. Pack it out!
    - If there is not a supply of driftwood, collect loose sticks and branches from the ground. Never break branches off any trees, living or dead. Broken branches leave scars that visually impact the area.
- Don't bring in firewood from other areas as they can spread plant diseases. Only purchase or use firewood local to your site.

Principle 5 Interpretation:

Environmental Impacts

Potential effects of overly concentrated beach fires

The destruction of natural barriers like driftwood that stabilize the shoreline, the disruption of beach ecosystems by changing the composition of the sand and killing small organisms, the damage to coastal vegetation, the possibility of ash and debris contaminating the ocean, and the increased risk of erosion due to the destruction of these barriers can all result from beach fires. Burning treated wood can also release harmful chemicals into the air.

- **Beach fire smoke** exacerbates poor air quality, especially fine particulate matter, which can be detrimental to respiratory health, especially for those with underlying medical conditions.
- **Disruption to the beach ecosystem:** Fires' extreme heat can sterilize the sand, destroying microscopic life there and affecting the larger creatures' food chain.
- **Damage to flora and vegetation:** Burning driftwood or other beach vegetation can lessen the amount of natural shade along the coastline and disrupt wildlife habitats.
- **Marine pollution:** Beach fire debris and ash have the potential to damage marine life by washing into the ocean.
- **Erosion issues**: Burning can remove large driftwood fragments that serve as organic barriers against erosion, which may lead to changes in the shoreline.
- **Toxic chemicals**: When treated wood, which may include substances like methyl bromide, is burned, airborne contaminants may be released.

Principle 6. Respect Wildlife:

Respecting wildlife at its heart means letting living things to include all manner of life, (i.e., insects) in the areas we recreate live their lives with as little intrusion from humans as possible. Giving them the space they need to live, reproduce, and eat without getting in the way is important. Not giving wildlife this respect can lead to alteration of their routines and patterns. We can mitigate our impacts on wildlife indirectly by:

An eagle ensnared in fishing line and trapped, inverted, among the treetops Images:Gibson (2022)

- Observe flora and fauna from a distance; do not follow or approach them. Use binoculars or a telephoto lens to view their natural behaviors. Even when watching wildlife from a vessel, maintain a proper distance.
- Be respectful of flora and fauna during migratory patterns and sensitive times, (mating, nesting, extreme temperature changes, and young with adult habitat).
- Avoid touching or harassing marine life as it alters their natural behavior and exposes them to predators, among other dangers.
- Never feed fauna. Feeding fish and wildlife damages their health. Never discard or release live bait into a water resource.
- Avoid using drones; they disturb fish and wildlife affecting their behavior. Review rules for drone use should they be permitted.
- Avoid using lead sinkers and jigs. If lead sinkers are found, pack out for proper disposal.

Marine mammals are protected under the US Marine Mammal Protection Act, which requires people to stay a safe distance away to ensure their normal behavior.

Principle 6 Interpretation:

Environmental Impacts

Impacts on nesting and breeding activity

Every interaction with wildlife affects them adversely. Contact may cause wildlife to change feeding patterns and locations, or to stop eating the foods they prefer to avoid contact with humans. Disrupted feeding patterns caused by human disturbances can lead to inadequate nourishment for animals, especially the young, affecting their growth and survival. (USFWS, n.d.) It's difficult to quantify the severity of an incident of disturbing wildlife. Repeated contact, however minor, can accumulate over time to a bigger impact on the animals' behavior and habits. (USFWS, n.d.)

Different wildlife species have varying levels of tolerance to human presence, with some being more easily disturbed than others (Cantu de Leija, 2024), and with certain life stages being more sensitive to these contacts than others. Nesting and breeding wildlife, and newborn wildlife are especially susceptible to contact with humans. (USFWS, n.d.)

Many species are at their most vulnerable during mating season and while incubating eggs or raising young. Depending on location and species, you may find nesting or newborn wildlife throughout the year, though spring is the most active time for reproductive activity.

Typical nesting locations are sandy beaches, sandbars or small islands, shallows, and tidal pools. The stress of repeated contact may reduce the success of hatches or may cause wildlife to abandon their eggs or young. Wildlife can be forced to leave nesting sites frequently because of human interference, leaving the eggs or young vulnerable to predators. (USFWS, n.d.; Hockin, 1992)

Propeller strikes

Propeller strikes on marine life can result in severe injuries or even death, often impacting animals like sea turtles, manatees, whales, and dolphins. These injuries are caused by the blades of the propeller striking the animals as they bask near the surface. Areas with high boat traffic pose a significant threat to marine life due to the increased risk of propeller strikes. (Clearwater Marine Aquarium, 2017)

Fishing and Trapping Impacts

Fishing and trapping waste can have a profound impact on wildlife. Mono-filament fishing line is an entanglement hazard. Lead sinkers are toxic to wildlife and humans. Removing waste when you leave the area (including spent lines, artificial baits, sinkers, hooks) removes the chance that you will unwittingly ensnare or poison wildlife. Using non-toxic fishing gear: replacing lead sinkers with tungsten and steel reduces or removes the potential for harming wildlife.

If you use marine traps, ensure that you are using appropriate trap styles for the water body, familiarize yourself with regulations and retrieve traps when the season ends.

Images: Vastateparksstaff (2015)

Environmental Statistics

Lead

In New England, poisoning from lead weights and jigs is the greatest source of loon mortality, accounting for 50% of adult deaths (Pokras and Chafel, 1992). Likewise, in Canada, 30% of adult loon mortality is due to lead poisoning resulting from sinker ingestion (Scheuhammer and Norris, 1996). Ensor et al. (1992) found that 17% of adult loon deaths in Minnesota could be traced to lead poisoning from fishing tackle.

Image: Gibson (2022)

A 2.5-year study found that lead poisoning from ingested fishing sinkers was the most common cause of death in adult common loons in New England. The study found that 64% of adult loons from New Hampshire and 44% from Maine had ingested fishing sinkers, and 52% of the adults examined died from lead poisoning. The study also found that levels of lead in the blood and livers of loons that had ingested sinkers were significantly higher than those that had not.

Toxic effects of lead to loons were found to be similar to those seen in other waterbirds. (Sandborn, 2002)

Propeller Strikes

According to available data, propeller strikes significantly impact marine wildlife. Estimates suggest that up to 20,000 whales are killed by ship strikes annually, with most of these deaths attributed to propeller injuries. The impact on manatees is particularly severe—95% bear visible propeller scars from encounters with boat propellers. Research on harbor seals demonstrates a notable increase in propeller strike cases among weaned pups, highlighting the vulnerability of younger animals to these impacts (Schoeman, 2020).

Principle 7. Be Considerate of Others

Being considerate of others is about making sure that your actions and behavior on the water don't affect the ability of others to enjoy or safely use waterways together.

Regulations and designated use areas help different categories of water recreation enjoy the water together.

- Be courteous and respectful to other visitors, including anglers, swimmers, skiers, boaters, and divers.
- Be aware of your speed and proximity to others, including your boat wake.
- Move quickly off of boat ramps and launches to make space for others.
- Respect diver-down flags, fishing equipment (nets, lines, trawls or fishing apparatus) and other personal or commercial gear you may encounter. Diver Down flags should be given a 300-foot distance, and should be approached cautiously, only when approach is necessary.
- Leave fishing buoys, navigation buoys, and marks alone. They keep other people safe or they can be crucial to someone else's livelihood.
- Avoid disrupting private and commercial aquaculture farms and beds which stabilize sediments and help to protect the shoreline from erosion and storms. They also often sequester carbon, protecting surrounding habitats like salt marshes from erosion, aiding carbon sequestration in these habitats.
- Minimize the impacts of group size floats and sand bar gatherings. Avoid crowding other visitors. Respect other boaters and protect the quality of their experience.
- Let nature's sights and sound prevail. If using an audio device (radio, cell phone, etc.) use headphones or earbuds so you will not disturb others.

Principle 7 Interpretation:

Environmental Impacts

To ensure that everyone enjoys the water safely and without interruption, it is important to "be considerate of others on the water."

Environmental Statistics

Every year, an estimated 90 million illnesses occur across the country due to approximately 4 billion surface water recreation events. This results in annual costs ranging from $2.2 billion to $3.7 billion. The financial impact of illnesses requiring a visit to a healthcare provider or emergency department was over 65%. The economic impact of severe illnesses leading to hospitalization or death was estimated to be around 8% of the economic burden. (Deflorio, 2018)

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Raptor Education Group - Marge Gibson

https://www.raptoreducationgroup.org/

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Scouting for Clean Waterways!

https://www.scouting.org/outdoor-programs/scouting-clean-waterways/

In celebration of the 70th anniversary of the Conservation Good Turn for America, Scouting America is joining the nationwide initiative aimed at addressing the critical issue of waterway and marine debris, “aquatic trash”, offering Scouts the opportunity to make a meaningful impact on the health of our waterways and ecosystems.

The Problem: Waterway and Marine Debris

The US Department of the Interior, the Environmental Protection Agency (EPA), and the National Oceanic and Atmospheric Administration (NOAA) all recognize that marine debris is one of the most pervasive global threats to the health of the world’s waterways. Each year, millions of tons of plastic and other man-made materials enter our water bodies, with the majority of that debris originating on land. The EPA and NOAA are committed to addressing this critical issue through collaborative efforts with partners to prevent littering, promote responsible waste management, and protect our precious water resources.

For more information:

- DOI Marine Debris Impacts: https://tinyurl.com/marinedebrisimpacts
- EPA Trash Free Waters program: https://tinyurl.com/Trashfreewaters
- NOAA Marine Debris program: https://tinyurl.com/NOAAMarineDebris

Why It Matters:

Waterway and marine debris present a substantial threat to the well-being of our oceans, lakes, rivers, and their interconnected ecosystems. The influx of plastic and other human-made materials into these water bodies results in dire consequences for marine life, including habitat damage and degradation. Additionally, it poses challenges to navigational safety, causes significant economic loss, diminishes the quality of life in coastal communities, and jeopardizes human health and safety. From plastic pollution to abandoned tires, the environmental repercussions of debris are profound and cannot be overstated.

What Sea Scouts Can Do!

Be part of Scouting America’s nationwide campaign to combat waterway and marine debris. Every year, millions of tons of plastic and other man-made materials pollute our waters, threatening marine life and ecosystems. Sea Scouts can:

- Learn about this critical environmental issue
- Develop sustainable practices
- Take action through community service projects

You Can Make a Difference - Take Action!

Sea Scout Ships can organize a Scouting for Clean Waterways Service Project.

Clean-up projects can be held anywhere there is a need. Our waterways and the areas around them, parks, and recreation areas are all ideal locations for Scouting for Clean Waterways service projects. Remember that trash on land will frequently become aquatic trash.

Scouting for Clean Waterways service projects should last between 2-4 hours.

Scouting units can organize the service project on their own or they can participate with community organizations hosting similar events.

Scouting for Clean Waterways service projects can be held anytime. Scheduling the activity each year between April and June, as an Earth Day, or as a Scouts Trash the Trash Day activity are the most popular options.

Every piece of trash collected and properly disposed of is one less piece of trash that can enter our waterways.

Conclusion:

"Scouting for Clean Waterways" represents a unique opportunity for Scouts to make a tangible difference in the health of our waterways and marine ecosystems. By coming together each Spring, Scouts will not only contribute to a cleaner environment but also embody the principles of environmental stewardship and service that are at the core of the Scouting movement. Together, we can create a cleaner, healthier future for generations to come.