

Dungeness National Wildlife Refuge Preliminary Draft Alternatives Comparison Table

Key theme/Issue	Alternative A (Current Management)	Alternative B	Alternative C
HABITAT MANAGEMENT			
<i>Nearshore Habitats</i>			
Multiple habitats Oil spill and contaminants	<ul style="list-style-type: none"> - Rapid response in accordance with the Strait of Juan de Fuca Geographic Response Plan. - Collect and maintain information needed by the response team for resource protection. - Periodically review and update Geographic Response Plan. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Increase staff participation in deployment drills. - Work with partners (WA Dept. of Ecology, oil spill response groups) on validating deployment locations and techniques within refuge lands. 	
Sandy bluff habitat	<ul style="list-style-type: none"> - Maintain public use closure. 	- Use Integrated Pest Management (IPM) to control invasive species. <ul style="list-style-type: none"> - Coordinate with partners (e.g. State, County and Tribes) to prevent or reduce shoreline armoring, especially to the west of Dungeness NWR. - Restrict further development within 150 feet of the bluff on refuge lands. 	
Barrier beach habitat	<ul style="list-style-type: none"> - Seasonal public use closures. - Regular removal of marine debris. - Prohibition of driftwood collection - Fire suppression. - Work with partners to remove creosote-covered logs. - Rapid response in accordance with the Strait of Juan de Fuca geographic response plan. - IPM for invasive species control. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Work with partners to remove marine debris and creosote-covered logs in adjacent marine areas and increase removal in closed areas. - Monitoring environmental factors that are climate change related stressors (e.g., accelerated erosion due to sea level rise and/or increased frequency and severity of storm events, driftwood recruitment and retention). 	
Mudflat and barrier lagoon	<ul style="list-style-type: none"> - Monitor and if found, remove invasive species (e.g., <i>Spartina</i>) using IPM techniques. - Monitoring for green crab. - Seasonal public use closures. - Coordinate with partners (e.g., Clean Water Working Group) to monitor and address water quality issues within Dungeness Bay and Harbor. - Rapid response in accordance with the Strait of Juan de Fuca geographic response plan. - Removal of marine debris. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Monitoring environmental factors that are climate change related stressors (e.g., sedimentation, ocean acidification, invertebrate, salinity). - Remove U.S. Coast Guard (USCG) road access dike located on refuge land at base of spit. 	
Eelgrass Beds	<ul style="list-style-type: none"> - Coordinate with partners (e.g., Clean Water Working Group) to monitor and address water quality issues within Dungeness Bay and Harbor. - Coordinate with oil spill response team. - Monitoring for green crab. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Monitoring environmental factors that are known stressors. - Work with partners to determine adaptive management techniques to address stressors (e.g., climate change, sedimentation, excessive nutrients). 	
Salt marsh	<ul style="list-style-type: none"> - Monitor and if found, remove invasive species (e.g., <i>Spartina</i>) using IPM techniques. - Public use closure. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Monitoring environmental factors that are known stressors (e.g., sedimentation, ocean acidification, salinity, vegetation community, driftwood recruitment and removal). 	

Dungeness National Wildlife Refuge Preliminary Draft Alternatives Comparison Table continued

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	<ul style="list-style-type: none"> - Fire suppression. - Rapid response in accordance with the Strait of Juan de Fuca geographic response plan. - Removal of marine debris and creosote-covered logs. 		
Mixed-coniferous Forest			
Forest management within Dungeness Unit	<ul style="list-style-type: none"> - Invasive species removal. - Use fire suppression techniques to prevent catastrophic wildfire. - Clear downed or overhanging branches across the main trail that are hazards. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Enhance the effectiveness of the main trail firebreak by removing dead and downed materials within 10 feet of either side of the trail; keep live & large woody debris >21" DBH & snags. 	
Forest management within Dawley Unit	<ul style="list-style-type: none"> - Invasive species removal. - Limited removal of blowdown trees from the road and adjacent areas. - Use fire suppression techniques to prevent catastrophic wildfire. 	<ul style="list-style-type: none"> - Continue invasive species removal and fire suppression. - Conduct forest assessment. - Develop step-down forest management plan by 2018. - Use various techniques such as, but not limited to snag creation and thinning to enhance forest structure within core 40 acre area. - Removal of small dump site. 	Same as Alt. B, and: <ul style="list-style-type: none"> - Minimal management activities (e.g., planting berry-producing shrubs) within an additional 30-40 acres.
Roads within Dawley Unit	<ul style="list-style-type: none"> - Maintain access by sapling removal, limited placement of gravel. 	<ul style="list-style-type: none"> - Conduct road inventory and condition assessment by 2016. - Maintain main road for regular vehicles up to turnaround (0.95 miles), beyond that maintain for ATV only. - Slide stabilization, where needed. - Rehabilitate unneeded logging spur roads (0.58 miles) outside of 40 acre core area. 	Same as Alt. B, and: <ul style="list-style-type: none"> - Rehabilitate unneeded logging spur roads (0.16 miles) outside of 40 acre core area and 30-40 acre northwest corner.
Freshwater Wetlands			
Seasonal freshwater wetlands on the Dawley and Dungeness Units	<ul style="list-style-type: none"> -No current management 	<ul style="list-style-type: none"> - Conduct wetland inventory and hydrological assessment by 2015. - Conduct baseline migratory bird, amphibian and bat surveys. - Use IPM to control invasive species. 	
Instream and riparian habitat	<ul style="list-style-type: none"> -No current management 	<ul style="list-style-type: none"> - Slope stabilization of main road. - Partner with upstream land owners to improve and protect water quality. - Conduct hydrological assessment by 2015. - Conduct survey and assess habitat suitability for anadromous and resident fish. - Use IPM to control invasive species. 	
Freshwater impoundment on Dawley Unit	<ul style="list-style-type: none"> - Maintain water delivery system to impoundment. - Maintain water level for use in fire suppression. - Clear woody vegetation from dike. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Conduct hydrological assessment of relationship between impoundment and domestic water source. - Map bathymetry of impoundment. - Conduct baseline amphibian and bat surveys. - Install new water control structure and water gage. - Maintain minimum water levels and manage for optimum water levels/benthic layer characteristics for amphibians. - Manage vegetation and downed woody debris along waterline. - Use IPM to control invasive species (e.g., bull frogs and non-native fish). 	

Dungeness National Wildlife Refuge Preliminary Draft Alternatives Comparison Table continued

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Monitoring and Research			
Research	<ul style="list-style-type: none"> - Caspian tern colony productivity. - Sediment dynamics at the base of Dungeness Spit. - Large woody debris monitoring in the Elwha nearshore. 	<ul style="list-style-type: none"> - Assess the value of salt marsh habitat on Graveyard Spit as a nursery area for crab, salmon, etc. - Assess driftwood recruitment and removal rates within the barrier beach and salt marsh habitats. - Plot and monitor microhabitat characteristics (e.g. species, % cover) to track changes in distribution and diversity of plant species in the Graveyard Spit Research Natural Area (RNA). - Assess climate change impacts on natural spit habitats such as Dungeness Spit. 	
Status monitoring (Surveys)	<ul style="list-style-type: none"> - Collect limited data on bird counts (Christmas Bird Count, FeederWatch, mid-winter waterfowl survey), invasive plants, green crab, marine debris. 	<ul style="list-style-type: none"> - Continue and expand existing data collection in Alt A. - Conduct Breeding Bird Survey (BBS). - Monitor the distribution and densities of eelgrass on the Refuge 	
Effectiveness Monitoring	<ul style="list-style-type: none"> - No specific effectiveness monitoring for habitat or wildlife. 	<ul style="list-style-type: none"> - Monitor CCP and other step down plan objectives. 	
Scientific Assessments	<ul style="list-style-type: none"> - Assess Lepidopteran use of Dungeness and Graveyard spits. 	<ul style="list-style-type: none"> - Conduct baseline amphibian and bat surveys. - Follow-up assessment of the distribution and abundance of Lepidopterans on Graveyard and Dungeness Spits. - Assess the number of breeding pairs of gull colony at the tip of Graveyard Spit. - Conduct survey and assess habitat suitability for anadromous and resident fish. - Conduct a wetlands inventory (Dawley Unit) and hydrological assessment (Dawley and Dungeness) by 2015. - Conduct road inventory and condition assessment (Dawley Unit) by 2016. 	
PUBLIC USE			
Human-caused wildlife disturbance			
Aircraft disturbance	<ul style="list-style-type: none"> -Federal Aviation Administration 2000 foot Above Ground Level (AGL) flight recommendation over National Wildlife Refuges. 		
Refuge foot access – open and closed areas			
Open areas: upland trails, strait-side of Dungeness Spit from west refuge boundary to lighthouse (zones 1, 2, and 3).	<ul style="list-style-type: none"> - Foot access only, sunrise to sunset. 		
Seasonal open areas: tideland areas in the first ½ mile of the bay side of the Spit (zone 2).	<ul style="list-style-type: none"> - Foot access only May 15 – September 30, sunrise to sunset. 		
Temporary Closures	<ul style="list-style-type: none"> - Close portions of high use areas when seal pups present. 		
Closed areas: upland forest, bluffs, Graveyard Spit (zone 4), end of Dungeness Spit (zone 4), bay- and harbor-side of Dungeness Spit (zone 4), Dawley Unit	<ul style="list-style-type: none"> - Closed to public use. 		
Refuge motorized and non-motorized boat access – open and closed areas			
Boat access – landings	<ul style="list-style-type: none"> - Allowed by advance reservation at designated lighthouse boat landing zone only, sunrise to sunset. , Limited to 20 boat landings per day. 	<ul style="list-style-type: none"> Same as Alt. A, except: - Boat landing limited to 9am - 5pm. 	
Boat access – Refuge waters (tideland areas east and west of	<ul style="list-style-type: none"> - Open to boating May 15 – September 30, sunrise to sunset. - No wake zone in all refuge waters. 		

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Graveyard Spit in zone 5)	<ul style="list-style-type: none"> - Boats must stay 100 yards from the mean high tide line. - Refuge waters closed to personal watercraft, windsurfing, and para-surfing. 		
Boat buffers, non-refuge waters	<ul style="list-style-type: none"> - Boaters are encouraged to stay at least 100 yards from the mean high tide line. 		
Visitor orientation			
Staff and volunteer time devoted to making visitor contacts on the Refuge	<ul style="list-style-type: none"> - Staff time: 210 hours per year. - Volunteer time: 1,000 hours per year. 	<ul style="list-style-type: none"> - Increase staff time to 520 hours per year and volunteer time to 1,200 hours per year. 	<ul style="list-style-type: none"> - Increase staff time to 315 hours per year and volunteer time to 1,100 hours per year.
Orientation materials	<ul style="list-style-type: none"> - Tear sheet maps available at main and horse trail entrances. Panel maps located at county park kiosk, entrance station, horse trail entrance, base of main trail, and lighthouse boat landing area. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Add information and map panels at Cline Spit boat launch and Dungeness Landing boat launch 	Same as Alt. A, and: <ul style="list-style-type: none"> - Add information and map panel at Cline Spit boat launch
Regulation Signs	<ul style="list-style-type: none"> - Signs at closed areas (permanent): bluffs; bay-side of spit at ½ mile to lighthouse; across end of spit at lighthouse; north side of parking lot trail. - Signs at closed areas (seasonal): bay-side of spit to ½ mile; boundary pilings in bay. - International symbol signage at: main and horse trail entrance stations; bluffs 	Same as Alt. A, and: <ul style="list-style-type: none"> - Additional signs at lighthouse, lighthouse boat landing area, and end of Dungeness Spit. 	
Wildlife dependent uses			
Wildlife Observation and Photography	<ul style="list-style-type: none"> - Unstructured opportunities to observe and photograph wildlife along approximately 1 mile of trails (including main, horse and bluff trails) and on approximately 5.5 miles of beach (zones 1, 2, and 3). 	Same as Alt. A, and: <ul style="list-style-type: none"> - Offer at least 5 guided wildlife walks and/or programs 	Same as Alt. B, except: <ul style="list-style-type: none"> - Offer at least 3 guided wildlife walks and/or programs
Fishing	<ul style="list-style-type: none"> - Permitted on Strait-side of spit and seasonally in boat access areas (zones 1, 2, 3, and 5). 	Same as Alt. A, and: <ul style="list-style-type: none"> - Install map and regulations panel at Cline Spit and Dungeness Landing. - Partner with WA Dept. of Fish and Wildlife (WDFW) to include refuge-specific information in State sport fishing rules pamphlet. 	
Shell-fishing	<ul style="list-style-type: none"> - Permitted seasonally on refuge tidelands in Dungeness Harbor and Bay up to 100 yards from the mean high tide line in zone 5 and in all foot access tideland areas (first ½ mile of Spit, zone 2). 	Same as Alt. A, and: <ul style="list-style-type: none"> - Install map and regulations panel at Cline Spit and Dungeness Landing. - Partner with WDFW to include refuge-specific information in State sport fishing rules pamphlet. 	
Interpretation – biological	<ul style="list-style-type: none"> - Maintain kiosk panel, trail panel, and overlook panels (6 panels) and refuge brochures. - Use trained and expert volunteers to provide interpretive information. - Present 1 interpretive program per year. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Provide at least 2 guided plant walks and/or programs annually. - Improve wildlife interpretive displays at Lighthouse. - Incorporate refuge-specific climate change information into at least 1 interpretive product. 	Same as Alt. A, except: <ul style="list-style-type: none"> - Provide at least 1 guided plant walk and/or program annually.
Interpretation – geological	<ul style="list-style-type: none"> - Kiosk panel, trail panel, overlook panel (1 panel). - Use trained and expert volunteers to provide interpretive information. 	Same as Alt. A, and: <ul style="list-style-type: none"> - Provide 1 guided geology walk and/or program annually. 	

Dungeness National Wildlife Refuge Preliminary Draft Alternatives Comparison Table continued

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	- Present 1 interpretive program per year.		
Environmental Education	- No formal refuge Environmental Education program. - Continue to allow the refuge to be used by others as an outdoor classroom.	- Continue to allow the refuge to be used by others as an outdoor classroom. - Hire education specialist and offer education programs to primary and secondary level school groups on and off the Refuge. - Increase partnerships.	
Non-wildlife dependent uses			
Beach use	- Recreational beach use allowed from west refuge boundary to the first ½ mile of the spit (zone 1 & Strait-side of zone 2). - Allowed activities are loosely defined to include: wading, picnicking, and sunbathing.		
Horseback riding	- Allowed on horse trail and west beach (zone 1) by advance reservation only. - Daily, Oct 1- May 14, and weekdays, May 15-Sept 30. - Reservation numbers may be limited to prevent resource damage, overcrowding and ensure public safety.	Same as Alt. A, except: - Limited to daily use, Oct 1- May 14 only.	Same as Alt. B, except: - Limited to weekday use only.
Jogging	- Allowed on upland trails, west beach and first ½ mile of spit (zone 1 & Strait side of zone 2).	Not appropriate, therefore not allowed.	
Cultural resources interpretation and education			
Interpretation – New Dungeness Lighthouse and maritime history	- Continue to partner with New Dungeness Light Station Association (NDLSA) to provide interpretation. - Continue to allow motorized access for keeper exchanges and facility maintenance. - Maintain human history panel in refuge entrance kiosk.	Same as Alt. A, and: - Work with USCG to bring New Dungeness Light Station properties into the Refuge System either through interagency agreement or property transfer and enter into formal agreement with NDLSA on management.	
Interpretation – Native American history and culture	- Continue to provide 1 interpretive product or program per year. - Maintain human history interpretive panel in refuge entrance kiosk and displays in lighthouse.	Same as Alt. A, and: - Provide at least 1 interpretive product or program per year. - Partner with Tribe(s) to provide at least 1 Native American cultural program per year.	
Community outreach			
Festivals and other public events	- Attend at least 3 events per year.		
Community presentations	- Deliver up to 2 presentations per year about the Fish and Wildlife Service and Washington Maritime NWR Complex.	Same as Alt. A, except: - Deliver at least 5 presentations per year.	Same as Alt. B, except: - Deliver at least 3 presentations per year.
Refuge website	- Limited content, infrequently updated.	- Routinely upgraded, improved content, and add links to partners' and other resources.	
Media outreach	- Limited coordination with local media sources.	- Increase coordination with media sources to improve the accuracy and content of Refuge related articles. - Publish at least 2 local articles per year. - Target select media articles toward boating and aviation	Same as Alt. B, except: - Publish at least 1 local article per year.

Dungeness National Wildlife Refuge Preliminary Draft Alternatives Comparison Table continued

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		communities.	
Volunteer Program	<ul style="list-style-type: none"> - Continue to effectively utilize volunteers to orient visitors, maintain facilities, monitor invasive species, control invasive plants, assist with biological program, and conduct community outreach. - Continue to work with Friends group. - Conduct 5 beach clean-ups per year. - Provide up to 2 full-time volunteer hosts. - Provide volunteer trainings. 	Same as Alt. A, except: <ul style="list-style-type: none"> - Increase the number of active volunteers that regularly participate in refuge programs to exceed 150 annually. - Conduct 7 beach clean-ups per year. - Provide up to 4 full-time volunteer hosts. - Provide additional volunteer trainings. 	Same as Alt. A, except: <ul style="list-style-type: none"> - Increase the number of active volunteers that regularly participate in refuge programs to exceed 125 annually. - Provide additional volunteer trainings.
Illegal uses			
Pets, bicycles, resource collecting, fires, discharging firearms, after hours trespass including camping, kite flying, ball playing, fireworks and Frisbees.	<ul style="list-style-type: none"> - Maintain law enforcement patrols. - Maintain regulation information panels and signage. - Continue to use staff, volunteers, and trail rovers to inform visitors. 	Same as Alt. A and: <ul style="list-style-type: none"> - Increase law enforcement patrols. - Replace regulatory and guidance signage at lighthouse boat landing zone and end of Dungeness Spit. 	

Do You Have Any Questions or Comments?

Your participation is critical to the success of this effort – we want to hear from you! Please send us your comments by February 18, 2012 to:

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Email: FW1PlanningComments@fws.gov. Please include "Dungeness NWR CCP" in the subject line of the message.