Appendix C
Proposed List
of Protected Vegetation

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Plant Species Review

The Aquatic Lands Habitat Conservation Plan defines potentially protected vegetation as native photosynthetic plants or algae that are either attached to, or rooted in, the substrate on state-owned aquatic lands. Four groups of native aquatic vegetation are referenced in the habitat conservation plan:

- Saltwater plants (such as seagrass and saltmarsh plants)
- Kelps (algae in the order Laminariales)
- Complex freshwater algae (such as stoneworts and brittle worts)
- Rooted freshwater plants (submerged, floating, and emergent types).

To be protected under this habitat conservation plan, there needs to be evidence that a vegetation type provides important habitat for any of the species covered under the Aquatic Lands HCP during a portion of their life history.

The following is a list of freshwater and marine and estuarine plant species that will be evaluated on a site-by-site and situational basis for protection on state-owned aquatic lands. While all species within the four groups are potentially protected, the list is limited to species that occur in areas with a high likelihood of receiving project proposals to use state-owned aquatic lands. This list does not warrant protection of the listed plant species; instead, it is a tool to assist with further evaluation and investigation to better determine plant species protection on state-owned aquatic lands.

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
Alisma gramineum	Narrowleaf water plantain	Alismataceae	Lakes; shoreline (rarely submersed); found throughout WA	Food and habitat for waterfowl and fish	
Alisma triviale	Northern water plantain	Alismataceae	Lakes; shoreline (rarely submersed); found throughout WA	Food and habitat for waterfowl and fish	
Alopecurus spp. (various)	Foxtail	Poaceae	Lakes; rivers; Shoreline; found throughout WA	Nutritious and palatable for wildlife	Some non-native species in WA; Alopecurus myosuroides is on the WA noxious weed list
Brasenia schreberi	Watershield	Cambomaceae	Lakes; floating (rooted 0.5–3 meters (1.6–10 feet) deep); found throughout WA	Habitat for fish and aquatic insects; seeds eaten by waterfowl; leaves provide roosts for organisms	
Callitriche spp. (various)	Water-starwort	Callitrichaceae	Lakes; rivers (margins and slow water); free floating; found throughout WA	Forage and habitat for aquatic insects and fish; ducks eat foliage and seeds; leaves can keep soil moist in a drawdown; filters and absorbs toxins	Not required to identify to species level, which requires a 10-20x magnification of the fruit; some species are introduced but still provide habitat
Carex spp. (various)	Sedge	Cyperaceae	Lakes; rivers; shoreline; found throughout WA	Seeds eaten by birds; browsed by deer, elk and moose; shoreline stabilizer	Tolerant of brackish conditions
Ceratophyllum demersum	Coon's tail	Ceratophyllaceae	Lakes; rivers (still and slow water);	Habitat for juvenile fish, small aquatic animals, and aquatic	Common in WA and can be seen as a native weed

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
			floating (rootless but modified leaves can attach to sediment); found throughout WA	insects; waterfowl eat seeds and foliage	
Ceratophyllum echinatum	Spineless hornwort	Ceratophyllaceae	Lakes; rivers (still and slow water); floating (rootless but modified leaves that can attach); found throughout WA	Habitat for juvenile fish, small aquatic animals, and aquatic insects; waterfowl eat seeds and foliage	Rare plant list
Chara spp. (various)	Stonewort, muskgrass, muskwort	Characeae	Lakes; shoreline to deep water (about 0.05–20 meters (0.2–66 feet); found throughout WA	Food source for waterfowl, especially ducks; provides protection for juvenile fish and invertebrates	A plant-like algae that uses root-like structures called holdfasts to attach to sediment
Comarum palustre	Marsh cinquefoil, purple marshlocks	Rosaceae	Lakes; rivers (margin); shoreline; found throughout WA	Leaves and seeds eaten by wildlife, especially waterfowl	
Cyperus spp. (various)	Flatsedge	Cyperaceae	Lakes; rivers; shoreline; found throughout WA	Food source for wildlife and birds	Cyperus eragrostis and C. esculentus are on the WA noxious weed list
Dulichium arundinaceum	Threeway sedge	Cyperaceae	Lakes; rivers (slow and still water);	Food for waterfowl	

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
			shoreline (margin); found throughout WA		
Elatine spp. (various)	Waterwort	Elatinaceae	Lakes; rivers (slow and still water); shoreline; found throughout WA	Stabilizes the shoreline; very few known locations In WA	
Eleocharis spp. (various)	Spike rushes	Cyperaceae	Lakes; rivers; shoreline; found throughout WA	Shoreline stabilizer if it covers a large area and many are present	Tolerant of brackish conditions
Elodea canadensis	Canadian waterweed	Hydrocharitaceae	Lakes; rivers; shoreline (submersed); found throughout WA	Food and habitat for fish, waterfowl, and wildlife	Tolerant of brackish conditions
Elodea nuttallii	Western waterweed	Hydrocharitaceae	Lakes; rivers; shoreline (submersed); found throughout WA	Food and habitat for fish, waterfowl, and wildlife	Tolerant of brackish conditions
Fontinalis antipyretica	Antifever fontinalis moss, aquatic moss	Fontinalaceae	Lakes; rivers; attached (rocks or logs in flowing water); floating (loose or attached to substrate in still water); found throughout WA	Habitat for aquatic insects, larvae, and other microorganisms; small fish species will nest in it	
Heteranthera dubia	Water stargrass,	Pontederiaceae	Lakes; rivers; shoreline (up to 3	Waterfowl eat foliage; provides fish cover and	

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
	grassleaf mudplantain		meters (10 feet) deep); found throughout WA	habitat for invertebrates; ducks eat leaves	
Hippuris montana	Mountain mare's-tail	Hippuridaceae	Lakes; rivers; shoreline (shallow water or mud up to 2 meters (6.5 feet) deep); found throughout WA	Seeds and vegetation eaten by waterfowl and shorebirds; provides shelter for small animals and cover for fish and amphibians	
Hippuris vulgaris	Common mare's-tail	Hippuridaceae	Lakes; rivers; shoreline (shallow water or mud up to 2 meters (6.5 feet) deep); found throughout WA	Seeds and vegetation eaten by waterfowl and shorebirds; provides shelter for small animals and cover for fish and amphibians	Easily confused with Equisetum spp.
Hydrocotyle ranunculoides	Water pennywort, floating marshpenny wort	Apiaceae	Lakes; shoreline (forms floating mat or anchors in mud); found in western WA	Provides habitat for aquatic invertebrates; rare	
Isoetes spp. (various)	Quillwort	Isoetaceae	Lakes; rivers shoreline (submersed in shallow to moderate water); found throughout WA	Deer feed on leaves and muskrats and waterfowl eat the fleshy corms; intolerant of nutrient enrichment and can be an indicator of good water quality	
Juncus spp. (various)	Rush	Juncaceae	Lakes; rivers; shoreline; found	Birds use plant material for nests; has been used by the	Identification to species level not necessary

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
			throughout WA	frog Rana pretiosa Juncus effusus as breeding habitat; provides food and shelter for insects, birds and small mammals; contributes plant material to wetlands; removes excess nutrients and heavy metals	
Leersia oryzoides	Rice cutgrass	Poaceae	Lakes; rivers; (slow and still water); shoreline (margin or mud); found throughout WA	Provides food and cover for amphibious organisms and waterfowl	
Lipocarpha spp. (various)	Halfchaff sedge	Cyperaceae	Lakes; rivers; shoreline; uncommon in WA	Lipocarpha aristulata is state listed as threatened	
Lobelia dortmanna	Water lobelia, Dortmann's cardinalflower	Campanulaceae	Lakes; shoreline (submersed up to 2 meters (6.5 feet) deep); found in western WA	State listed as threatened; at high risk of extirpation in WA state	Identify during blooming season; can be confused for more common species
Marsilea spp. (various)	Waterclover	Marsileaceae	Lakes; rivers (slow and still water); shoreline; found throughout WA	Spore cases are eaten by waterfowl; the plant provides shelter for fish	Some non-native species in WA
Myriophyllum spp. (various)	Watermilfoil	Haloragaceae	Lakes; submersed; found	Provides habitat for aquatic invertebrates, amphibians,	Three species are on the noxious weed list:

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
			throughout WA	and juvenile fish	Myriophyllum spicatum, M. heterophyllum, and M. aquaticum; M. hippuroides is a native that can be confused with M. heterophyllum
Najas flexilis	Nodding waternymph	Najadaceae	Lakes; rivers; submersed (to 4 meters (13 feet) depth); found throughout WA	Entire plant is eaten by waterfowl and considered one of their most important food sources; provides shelter for small fish and insects	Tolerant of brackish conditions
Najas guadalupensis	Southern waternymph	Najadaceae	Lakes; rivers; brackish conditions; submersed (to 4 meters (13 feet) depth); found throughout WA	Entire plant is eaten by waterfowl and considered one of their most important food sources; provides shelter for small fish and insects	Tolerant of brackish conditions
Nitella spp.	Brittlewort	Characeae	Lakes; shoreline to deep (about 5 centimeters (2 inches) to 20 meters (66 feet)) water; floats above sediment or attaches to sediment; found throughout WA	Important food source for waterfowl; provides cover and food source for fish; stabilizes soil	A plant-like algae that uses root-like structures called holdfasts to attach to sediment; sometimes forms underwater meadows with muskgrass (Chara spp.)
Nuphar polysepalum	Yellow water lily	Nymphaceae	Lakes; rivers; (slow and still water);	Food source for mammals and waterfowl; spawning habitat for fish; adult frogs	

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
			shoreline (up to 4 meters (13 feet) deep); found throughout WA	observed using floating and emergent vegetation; plant eaten by pond turtle postpartum	
Polygonum spp. (various)	Knotweed, floating smartweed	Polygonaceae	Lakes; rivers; (slow and still water); shoreline to deep water; found throughout WA	Food for birds	Some Polygonum species have taxonomic synonyms within the Fallopia or Persicaria genus; for those species that may be on the WA noxious weed list, identify to species level
Potamogeton spp. (various)	Pondweed	Potamogetonaceae	Lakes; floating (rooted 0–6 meters (0–20 feet) deep); found throughout WA	Seeds, tubers, and vegetation provide food and cover for aquatic animals and waterfowl	Potamogeton crispus is on the WA noxious weed list
Ranunculus aquatilis	Water buttercup, spearwort, white water crowfoot	Ranunculaceae	Lakes; rivers; submersed; found throughout WA	Fruit eaten by waterfowl	
Ruppia cirrhosa	Ditchgrass	Ruppiaceae	Lakes; river; submersed; throughout WA	Cover and food for many aquatic species; all plant parts eaten by waterfowl; used in restoration projects;	Identification to species level not necessary; unclear if Ruppia cirrhosa and R. maritima are the same species
Sagittaria spp. (various)	Arrowhead	Alismataceae	Lakes; shoreline (rarely submersed); found throughout WA	Eaten by waterfowl, beaver, muskrat, and porcupine	Sagittaria graminea and S. platyphylla are on the WA noxious weed list
Scheuchzeria	Rannoch-	Scheuchzeriaceae	Lakes;	Similar in growth and	

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
palustris	rush		shoreline; uncommon in WA	structure to other valuable shoreline species	
Schoenoplectus spp. (various)	Bulrush	Cyperaceae	Lakes; rivers; shoreline (up to 1.5 meters (5 feet) deep); throughout WA	Food, cover, and nesting habitat for birds; shoreline stabilizer and used for contaminated water treatment	Schoenoplectus mucronatus is on the WA noxious weed list
Scirpus spp. (various)	Bulrush	Cyperaceae	Lakes; shoreline; found throughout WA	Food, cover, and nesting habitat for birds; shoreline stabilizer and used for contaminated water treatment	Used in habitat restoration projects for stabilization and to increase diversity
Sparganium spp. (various)	Bur-reed	Scrophulariaceae	Lakes; rivers; shoreline (1–2 meters (3–6.5 feet) deep); found throughout WA	Food source and habitat for waterfowl and mammals; known to absorb pollutants	Used in restoration projects
Spartina gracilis	Alkali cordgrass	Poaceae	Lakes; rivers; shoreline; found mostly in eastern WA	Wildlife cover, nesting habitat, and hunting area for various birds	Many invasive Spartina species present in WA saltwater areas
Spartina pectinata	Prairie Cordgrass	Poaceae	Lakes; rivers; shoreline; found mostly in eastern WA	Wildlife cover, nesting habitat, and hunting area for various birds	Spartina pectinata is uncommon in WA
Stuckenia pectinata	Sago pondweed	Potamogetonaceae	Lakes; shoreline (submersed); found throughout WA	Food source for ducks; habitat for invertebrates and young fish	Three species Stuckenia pectinata, S. filiformis, and S. vaginatus are so similar they can be lumped together
Torreyochloa spp.	Weak alkaligrass,	Poaceae	Lakes; rivers; shoreline;	Shoreline stabilizer and palatable	

Freshwater Species

Species	Common Names	Family	General Location	Rationale	Comments
	false mannagrass		found throughout WA		
Typha latifolia	Cattail	Typhaceae	Lakes; rivers; shoreline; found throughout WA	Filters runoff; reduces nutrients and sediment loading; eaten by pond turtles	Typha angustifolia is on the WA noxious weed list
Utricularia spp. (various)	Bladderwort	Lentibulariaceae	Lakes; rivers; (slow and still water); shoreline (no roots but can attach); found throughout WA	Utricularia gibba, U. intermedia, and U. minor are all rare	U. inflata is on the WA noxious weed list
Veronica spp. (various)	Speedwell	Scrophulariaceae	Lakes; rivers; (slow and still water); Shoreline (2.5–10 centimeters (1–4 inches) deep); found throughout WA	Typically occurs with sedges and rushes	
Zannichellia palustris	Horned pondweed	Zannichelliaceae	Lakes; rivers; submersed; Found throughout WA	Fruit and entire plant eaten by waterfowl and other birds. Habitat for small aquatic animals.	Tolerant of brackish conditions

Marine/Estuarine Species

Species	Common Names	Family	General Location	Rationale	Comments
Agarum **spp**.	Sea colander, solid broad kelp	Laminariaceae	Marine; subtidal; attaches to rocks, wood and algae; found along the Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish; herring spawn on this kelp	This prostrate kelp is part of a large functional group in the Laminariales order
Alaria spp. (various)	Ribbon kelp	Alariaceae	Marine; low intertidal; subtidal; found along Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish; herring spawn on this kelp	These prostrate kelps are part of a large functional group in the Laminariales order; they are associated with *Nereocystis* beds
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	Estuarine; shoreline; Pacific Coast	Seeds eaten by birds; browsed by deer, elk and moose; shoreline stabilizer	Used as an indicator in riverine estuaries of the extent of marine influence
Costaria costata	Five-ribbed kelp	Costariaceae	Marine; low intertidal and shallow subtidal; attaches to rocks; found along Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish; herring spawn on this kelp	This prostrate kelp is part of a large functional group in the Laminariales order
Cymathaere triplicata	Three-ribbed kelp	Laminariaceae	Marine; lower intertidal and shallow subtidal; attaches to rocks up to 30 meters (98 feet) deep; Found along Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish; herring spawn on this kelp	These prostrate kelps are part of a large functional group in the Laminariales order; they are commonly associated with other species of kelp
Distichlis spicata	Saltgrass	Gramineae	Estuarine; Shoreline;	Potential salmonid use	Supports primary productivity of salt marshes

Marine/Estuarine Species

Species	Common Names	Family	General Location	Rationale	Comments
			found along Pacific Coast and Puget Sound		
Egregia menziesii	Feather boa kelp	Laminariaceae	Marine; upper subtidal; attaches to rocks up to 30 meters (98 feet) deep; fully sheltered to fully exposed; found along Pacific Coast and Puget Sound	Habitat for salmonids, juvenile rock fish, forage fish, and numerous invertebrates	This floating kelp is part of a large functional group in the Laminariales order; often co-occurs with bull kelp, giant kelp and other floating kelps
Jaumea carnosa	Jaumea	Compositae	Estuarine; shoreline; found along Pacific Coast	Potential salmonid use	Supports primary productivity of salt marshes
Laminaria spp. (various)	Brown kelp	Laminariaceae	Marine; estuarine; low intertidal and upper subtidal; attaches to rocks; found along Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish; herring spawn on this kelp	These prostrate and stipitate kelps are part of a large functional group in the Laminariales order; *Laminaria farlowii, L. longipes, L. ephemera, L. setchellii and L. sinclairii* are uncommon in WA
Macrocystis pyrifera	Giant kelp	Laminariaceae	Marine; low intertidal and subtidal; attaches to rocks; found in open ocean and along Pacific Coast and Juan de	Benefits to numerous fish and invertebrate species, including salmonids and forage fish.	This floating kelp is part of a large functional group in the Laminariales order

Marine/Estuarine Species

Species	Common Names	Family	General Location	Rationale	Comments
			Fuca		
Nereocystis luetkeana	Bull kelp	Laminariaceae	Marine; upper subtidal; attaches to rocks up to 30 meters (98 feet) deep; fully sheltered to fully exposed; found along Pacific Coast and Puget Sound	Habitat for salmonids, juvenile rock fish, forage fish, and numerous invertebrates	This floating kelp is part of a large functional group in the Laminariales order; restoration methods with this species are being researched
Phyllospadix spp.	Surfgrass	Zosteraceae	Marine; low intertidal and subtidal; attaches to rocky substrates in regions with moderate-to-high wave exposure; found along Pacific Coast and Puget Sound	Small organisms inhabit the canopy and rhizomes; herring lay their eggs on surfgrass; provides juvenile salmon habitat; nourishment for detritivores, fish and waterfowl	Common in exposed areas along the Strait of Juan de Fuca, western Whidbey Island, and the San Juan Archipelago; often occurs with *Zostera marina*; roots are often covered by sand
Pterygophora californica	Woody kelp	Laminariaceae	Marine; Estuarine; low intertidal and subtidal; attaches to rocks; found along Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish	This stipitate kelp is part of the Laminariales order
Ruppia maritima	Widgeongrass	Ruppiaceae	Estuarine; submersed; found	Cover and food for many aquatic species; all plant	Identification to species level not necessary; unknown if

Marine/Estuarine Species

Species	Common Names	Family	General Location	Rationale	Comments
			along Pacific Coast	parts eaten by waterfowl; used in restoration projects	*Ruppia maritima* and *R. cirrhosa* are the same species
Saccharina spp. (various)	Brown kelp	Laminariaceae	Marine; Estuarine; low intertidal and subtidal; attaches to rocks; found along Pacific Coast and Puget Sound	Used by salmonids, juvenile fish, and forage fish; nursery habitat for rock fish; herring spawn on this kelp	These floating kelps are part of a large functional group in the Laminariales order
Salicornia virginica	Pickleweed, Virginia glasswort	Chenopodiaceae	Marine; estuarine; low elevation salt marsh; mud flat; found in western WA	Supports small copepods on which salmonids feed	
Scirpus maritimus	Seacoast bulrush	Cyperaceae	Estuarine; shoreline; found along Pacific Coast and Puget Sound	Potential salmonid use	Supports primary productivity of salt marshes
Triglochin maritimum	Seaside arrowgrass	Juncaginaceae	Estuarine Shoreline Coastal	Potential salmonid use	Supports primary productivity of salt marshes
Zostera marina	Eelgrass	Zosteraceae	Marine; estuarine; intertidal (up to 12 meters (39 feet) deep; found in western WA	Small organisms inhabit the canopy, including juvenile shellfish; herring lay eggs on eelgrass; provides habitat juvenile salmon; nourishment for detritivores	