Coastal Native Seed Partnership Strategic Plan 2021 - 2025

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Plan prepared by Alexis Larsen and CNSP Steering Committee
Institute for Applied Ecology

PREFACE

IAE is a non-profit organization whose mission is conservation of native ecosystems through restoration, research, and education. IAE provides services to public and private agencies and individuals through development and communication of information on ecosystems, species, and effective management strategies. Restoration of habitats, with a concentration on rare and invasive species, is a primary focus. IAE conducts its work through partnerships with a diverse group of agencies, organizations and the private sector. IAE aims to link its community with native habitats through education and outreach.

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Cooperators

Bureau of Land Management; Center for Natural Lands Management, Clatsop Soil and Water Conservation District; Confederated Tribes of Coos, Lower Umpqua, and Siuslaw; Confederated Tribes of Siletz Indians; Coos Watershed Association; Coquille Indian Tribe; Coquille Watershed Association; Curry Soil and Water Conservation District; Curry Watersheds Partnership; Elkton Community Education Center; Institute for Applied Ecology; Lincoln Soil and Water Conservation District; Lower Rogue Watershed Council; MidCoast Watershed Council; National Park Service; Natural Resource Conservation Service; North Coast Land Conservancy; Oregon Department of Parks and Recreation; Oregon Military Department; Siuslaw Soil and Watershed Conservation District; Siuslaw Watershed Council; South Coast Watershed; South Slough National Estuarine Research Reserve; Stillwater Natives Nursery; The Nature Conservancy; Tillamook Estuaries Partnership; U.S. Fish and Wildlife Service; U.S. Forest Service; Washington Department of Natural Resources; Wild Rivers Land Trust.

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Cover photograph: Oregon iris (*Iris tenax*) and Oregon coast paintbrush (*Castilleja litoralis*) at Cape Perpetua. Photo by the Institute for Applied Ecology.

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INTRODUCTION

Coastal ecosystems are among the most rare and impacted ecosystems in the Pacific Northwest. As a result, threatened species like the Oregon silverspot butterfly (*Speyeria zerene hippolyta*) (OSB), Coho salmon (*Oncorhynchus kisutch*), western snowy plover (*Charadrius nivosus nivosus*), streaked horned lark (*Eremophila alpestris strigata*), and other plant and animal species that make their home in these habitats are greatly imperiled. The coastal meadows that were once prevalent in coastal dunes and headlands (where Oregon silverspot butterflies, western snowy plovers, and streaked horned larks are found) have been lost to commercial and residential development and to the invasion of European and American beachgrass (*Ammophila arenaria* and *A. breviligulata*). As much as 90 percent of coastal dune habitat has been altered in the last 100 years (Oregon Conservation Strategy 2016). Roughly 85 percent of estuarine habitats have been lost in this same period, impacted by development and changes to hydrologic flow from dredging and the construction of dikes and water-diversion structures (Brophy et. al. 2019). Oregon estuaries and wetlands provide critical habitat for at-risk species such as Oregon Coast Coho salmon, Chinook salmon (*Oncorhynchus tshawytscha*), and migratory birds along the Pacific Flyway. A large and diverse group of partners, including public land managers, restorationists, and private landowners, are working to restore these sensitive and imperiled coastal habitats. However, the return of ecosystem function and recovery of at-risk species that depend on coastal meadows and wetlands is only possible with the restoration of diverse, native plant communities found in those systems.

Large-scale habitat restoration in coastal meadows and wetlands on the Oregon Coast is limited by the lack of diverse, genetically appropriate, native seed. Demand for genetically appropriate, native seed for coastal restoration projects exceeds availability. Efforts to produce high-quality coastal native plant materials have largely focused on woody material, typically container trees and shrubs. To date, much of the native seed has been collected by hand in small quantities, a costly and labor-intensive process. While coastal land managers and restoration partners have individually collected wild seed and put some species into small-scale seed production, there has not been a coordinated effort to produce native seed for restoration efforts on the coast.

Native seed production on the coast is, in large part, limited by grower capacity. Until recently, one of the largest seed producers growing seed for coastal species was the Natural Resource Conservation Service's (NRCS) Corvallis Plant Materials Center (PMC). In the last several years, however, the NRCS shifted priorities and the PMC is no longer able to produce seed for OSB habitat and other coastal restoration projects. To fill this gap, local non-profits, the Institute for Applied Ecology (IAE) and the Center for Natural Lands Management (CNLM), began expanding production efforts to include Oregon coast seed production. While IAE has established coastal seed production fields, the CNLM program would need an

additional dedicated production location to produce and genetically isolate the full diversity of seed needed for the coast region. Lastly, the Northwest Oregon Restoration Partnership (NORP), a program of the Tillamook Estuaries Partnership, focuses on production of container trees and shrubs rather than seed. NORP is fully engaged in their production efforts and does not have the capacity to implement larger-scale seed production. At the same time, increased availability of native graminoid and forb seed would increase NORP's capacity to grow these species out for partners as well.

Coastal seed production has also been limited by a lack of coordination. Native seed production for the coastal region has not been formally organized, and currently consists of multiple entities working independently to meet small-scale restoration needs. Lack of coordination between growers and land managers has resulted in high overall costs for the production of seed and a risk of negatively impacting the remaining wild populations of native species through over-collection of wild seed. Furthermore, when native seed cannot be secured, project managers often choose to purchase non-local seed that is not appropriate for the coastal ecoregion. Planting a diversity of genetically appropriate species is a necessary step towards restoring resilient landscapes able to withstand a changing climate and competition from non-native species. Lack of stable funding is an additional challenge, making it difficult for land managers to guarantee annual seed requests and for growers to invest in growing seed for the diversity of plant species needed to fully restore coastal systems.

Purpose Statement

The purpose of the Coastal Native Seed Partnership (CNSP) is to bring together land managers, conservationists, restoration practitioners, and growers to increase the availability and affordability of native seed in order to restore Pacific Northwest coastal habitats. The CNSP will develop a seed strategy for establishing a dependable and sustainable supply of native seed that is genetically and ecologically appropriate in sufficient quantities needed to accomplish restoration goals on a landscape scale and to provide a stable marketplace for both growers and land managers. This Strategic Plan outlines a timeline for meeting goals and objectives over the next five years that will advance the CNSP in achieving its vision and mission.

Geographic Scope & Habitat

Scope

In January 2020, potential partners came together to outline a structure and operations plan for the CNSP. This included determining the geographic scope and target habitats for the CNSP. Partners reviewed the EPA Level IV Ecoregions for the Oregon coast to assist in delineating a geographic boundary for the Partnership. This boundary will inform seed collection, seed transfer zones, and membership. The map below (Figure 1) indicates the three ecoregions selected: 1a Coastal Lowlands; 1b Coastal Uplands; and 1d Volcanics. There is potential to extend the boundary into northern California if the group decides this would benefit the CNSP. The scope can be adjusted for specific species and elevation considerations, as well.

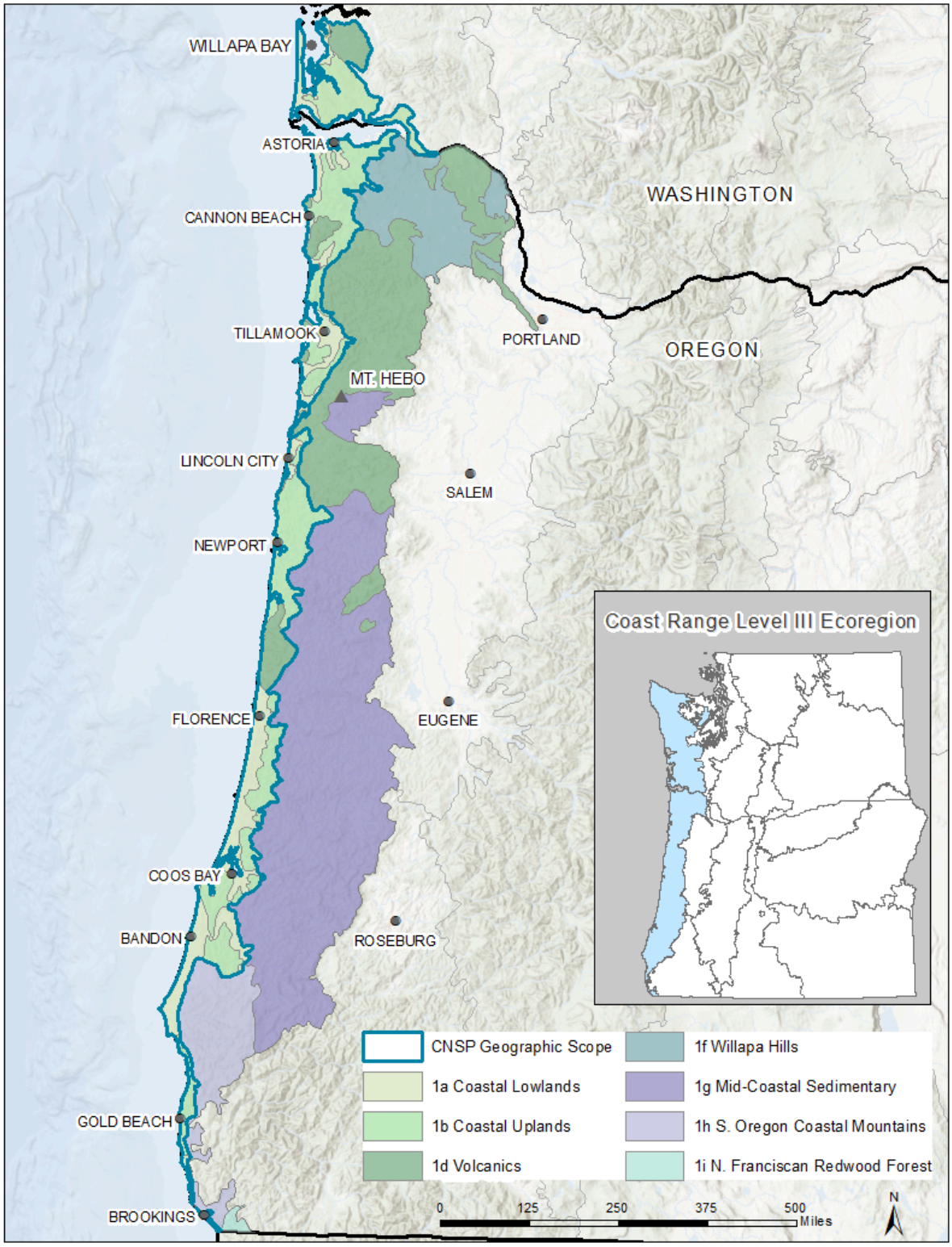

Figure 1. Geographic scope for the Coastal Native Seed Partnership.

Habitat

The Oregon coast is home to a wide variety of habitats that host a diversity of plant and animal species. Three target habitats were identified as the top priorities for the CNSP. These habitats are also designated as strategy habitats in the Oregon Department of Fish and Wildlife's Oregon Conservation Strategy (2016). Strategy habitats are habitats of conservation concern within Oregon that provide important benefits to strategy species.

Coastal grassland

Much of the historic coastal grassland habitat on the Oregon coast has been lost or degraded because of land development, invasive species, and climate change. Coastal grassland ecosystems play an important role in the life cycle of the federally threatened Oregon silverspot butterfly and have therefore been the focus of restoration efforts by federal and state agencies and local non-profit organizations. Planting a diverse mix of native forbs and grasses will help outcompete invasive species and allow slower growing perennials to establish over time. A functioning coastal grassland provides wildlife habitat, supports the food web, controls erosion of coastal bluffs, and helps mitigate the effects of climate change.

Dune

Over the course of the last century, Oregon dunes have been altered dramatically due to the introduction of European and American beachgrass (*Ammophila* ssp.) and other non-native and invasive species. The beachgrass has altered the movement of sand and has forced dune plant communities towards shrubland and forest, decreasing native forbs and grasses that provide habitat for threatened and endangered species like the snowy plover and streaked horned lark. Restoration of native plant communities in the dunes will also improve habitat for other native plant species including pink sandverbena (*Abronia umbellata*), silver phacelia (*Phacelia argentea*), and Wolf's evening primrose (*Oenothera wolfii*). A diverse dune plant community can help restore natural functions such as windbreak and storm surge protection by restoring the naturally dynamic system of moving sand.

Estuary

Estuaries are highly complex, productive habitats found along the Oregon coast, many of which have been altered through tidegates, channelization, diking, and dredging. Estuaries support a wide variety of plant and animal species including the federally threatened Coho salmon. Many estuary restoration projects seek to restore this habitat with channel modification, large woody debris, and revegetation after ground disturbance. The use of native seed, as well as bareroot, container, and plug plantings, is a strong component of these revegetation activities. A diverse estuarine plant community contributes to a functioning estuary that mitigates coastal flooding, filters runoff, cycles nutrients, and provides essential habitat for salmonids.

INSERT: Possibly add map of where these habitat types are found along the coast.

Vision & Mission Statement

Vision: *Coastal restoration practitioners and land managers have easy access to an ample and diverse supply of genetically and ecologically appropriate native seed to support restoration of healthy, thriving, resilient ecosystems.*

Mission: *To support coastal restoration and revegetation projects with genetically and ecologically appropriate native plant materials.*

Goals & Objectives

Coastal habitat restoration projects are increasing in quantity and scope and are in need of high quality native plant materials. Without increasing the supply of ecologically and genetically appropriate native seed, it may be difficult to reach restoration goals for the abundance and species diversity needed to maintain a high native component on these sites in the long term. The Partnership has identified a set of goals and objectives to aid in the development and expansion of the CNSP.

1. Implement initial CNSP infrastructure, as outlined in the CNSP Operations Plan, to support CNSP activities.
2. Increase the availability of genetically and ecologically appropriate native seed for us in coastal restoration, revegetation, and recovery projects.
3. Help expand, stabilize, and support the local native seed marketplace.
4. Engage partnership and create online forum for sharing information within the CNSP and the public.

Objectives are designed to address both short-term and long-term priorities. Progress will be reviewed by assessing the achievement of stated objectives. The Coordinator will publish an annual report to the partners with information about CNSP activities, achievements, status of contract production, and funding status. The report will be posted on the new website. The strategic plan is meant to be adaptive and may be changed or updated as needed. However, a formal review of the plan and development of the strategy for the next five years will take place in 2025. Goals and objectives will be re-evaluated and adjusted when the Strategic Plan is reviewed formally.

Goal 1 – Implement initial CNSP infrastructure, as outlined in the CNSP Operations Plan, to support CNSP activities.

Objective	Measure	Expected Result
A) Complete a 5-year budget projection for 2021 - 2024	Completed budget projection.	Budget projection completed by May 2021.
B) Draft and approve policies and procedures document.	Date approved.	Approved by April 2021.
C) Secure funding for 2022-2025.	Percentage of funding secured.	1) 75% of funding secured by April 2022. 2) 100% of funding secured by April 2024. 3) Backup plan developed if project is not fully funded.
D) Formally review strategic plan every five years.	Date completed.	Review completed and plan updated by December 31, 2025 and subsequently at least every five years.
E) Complete an annual report.	Date completed.	Completed annually by March 1 of the following year.
F) Seek out and add CNSP partners.	Number of partners added annually via MOU signature.	At least 2 partners added per year for first 3 years.
G) Hold committee meetings.	Number of meetings.	At least 1 steering committee and species selection committee meeting per year.
H) Hold general partnership meetings.	Number of meetings.	At least 1 general partnership meeting per year.

Goal 2 - Increase the availability of genetically and ecologically appropriate native seed for use in coastal restoration, revegetation, and recovery projects.

Objective	Measure	Expected Result
A) Develop prioritized species focus list.	Focus list adopted by CNSP.	Focus list adopted by April 30, 2021.
B) Develop seed collection, cleaning, and storage protocols following established and agreed upon standards.	Completed collection, cleaning, and storage protocols.	1) Protocols completed by May 31, 2021. 2) Reviewed and updated as needed annually.
C) Track collection, production, and distribution of all CNPS species with a database or other system.	Tracking system created or adapted from existing functional system.	Database or tracking system established by September 30, 2021.
D) Hire seasonal crew for native seed collection.	1) Date collection crew hired 2) Number of personnel on crew	1) Seed crew hired by March 31 annually. 2) 1-2 people hired each year.
E) Coordinate with partners for additional seed collection efforts.	Number of partners assisting in seed collection.	At least 1 partner per coast region (south, mid, and north coast) assisting with seed collection.
F) Collect source seed for production.	Number of species collected annually.	5-8 species collected annually.
G) Identify seed storage needs and establish procedures for CNSP seed storage through purchase or partner agreement.	1) Seed storage needs identified. 2) Date established.	1) Seed storage needs identified by September 2021. 2) Establish storage arrangement by September 2022.

Goal 3 - Help expand, stabilize, and support the local native seed marketplace.

Objective	Measure	Expected Result
A) Use partner projections to forecast plant materials needs over multiple years.	Completed annual document with all partner projects forecast for 2-3 years.	Partner projections compiled annually by May 31.
B) Enter new priority species into production annually.	Number of species put into production annually.	1-3 species put into production annually.
C) Engage potential coastal growers.	Number of growers engaged.	Meet with 2-4 potential growers by December 31, 2025.
D) Develop contracts with growers for new production.	Number of completed contracts with growers for new species.	Agreements for 1-3 species arranged annually by March 31; contracts signed by October 31.

Goal 4 - Engage partnership and create online forum for sharing information within the CNSP and the public.

Objective	Measure	Expected Result
A) Establish a website that is used for CNSP business and information sharing for CNSP members and the public.	Date first available for use by CNSP.	First available for use by CNSP members by October 2021.
B) Hold general membership meetings.	Number of general membership meetings.	At least one general membership meeting annually.
C) Hold one-on-one partner meetings to discuss individual partners' plant materials needs and barriers to meeting those needs.	Number of one-on-one partner meetings.	Meeting with at least 10 partners annually.
D) Send out regular partnership updates via email or newsletter.	Number of partnership updates.	Partnership updates via email or newsletter quarterly, at a minimum.