

Knowledge and Skill Guidelines for Atlantic Salmon RAS Technician

Education, Career, and Workforce Work Group

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Maine Aquaculture Workforce
Development Strategy

Evidence Report

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Generic skills needs for graduate employment in the aquaculture, fisheries and related sectors in Europe

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Abstract There is an increasing demand for highly skilled workers in all advanced industrialised economies. Although most jobs require occupation-specific skills to carry them out, it is widely recognised that generic skills are ever more needed by job seekers, to increase job opportunities and maintain employability; this applies to all sectors of the economy, from selling cars to undertaking marine research. Several recent European Union strategy documents emphasise the importance of generic skills. However, the apparent mismatch between the skills sets that employers seek and that job seekers offer remains a

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FISH CULTURE SECTION

National Assessment Sheds Light on Educational Needs for Aquaculture in the United States

Editor's Note: This article is a synopsis of an article published in the September 2015 issue of World Aquaculture magazine. Visit www.was.org/magazine to access the full-length article.

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INTRODUCTION

Education and training are fundamental to growing and maintaining a skilled workforce. Diverse, accessible educational opportunities are critical to the success and stability of the aquaculture industry. Ideally, aquaculture education and training blend many different sciences and technical fields germane to extensive or intensive rearing of aquatic organisms in inland, coastal, or offshore environments. Prior to the 1970s, there were few postsecondary institutions in the United States with aquaculture-specific programs (Figure 1). In response to growing enthusiasm for a “blue revolution” and the job opportunities aquaculture was expected to provide, numerous universities invested in new aquaculture-related programs, and student

interest and enrollment grew through the 1990s. Graduates of these programs helped to build the U.S. aquaculture industry but are now nearing retirement. The average U.S. aquaculture extension educator, for example, is now in his or her 60s and 70s and transitioning out of professional life (Jensen et al. 2005). Although job opportunities outside of the United States have increased in recent years, new generations of aquaculture professionals are needed to replace retiring domestic aquaculture “baby boomers.” Unfortunately, opportunities for education and training appear to be contracting, and even some historically strong aquaculture programs have been allowed to senesce.

An aging workforce, coupled with fewer educational opportunities for younger generations, is clear cause for concern

Workforce Barriers in Aquaculture



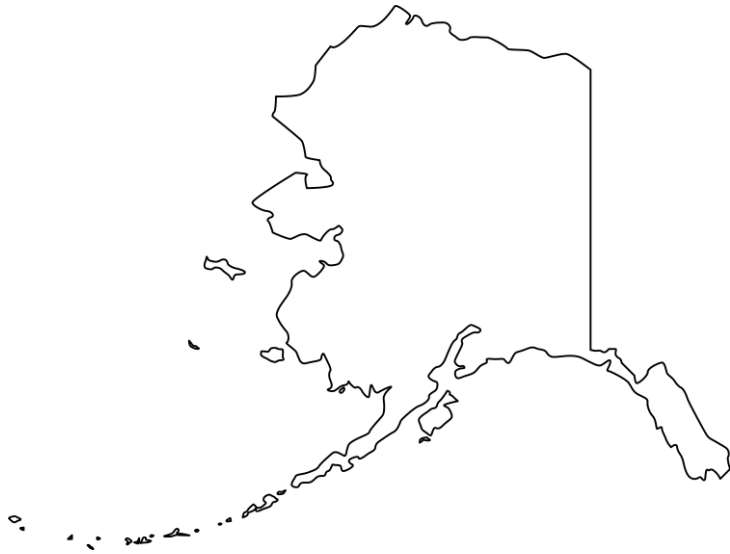
Aging workforce and low recruitment



Skill gaps – workforce skills vs. skill needs by industry

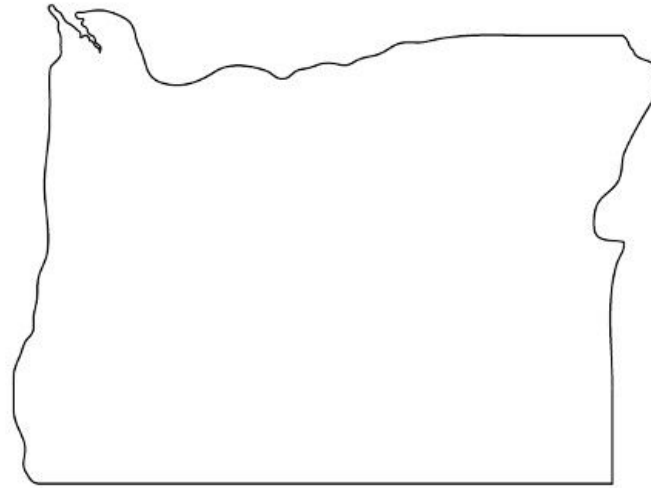


Workforce retention – turnover of employees



Enhancing aquaculture: Education for underserved Alaskan communities to promote workforce development in fisheries industries

National Science Foundation 2018



Enhancing community resilience and seafood sustainability through a diverse seafood processing workforce

NOAA Sea Grant

2019 Advanced Aquaculture Collaborative Programs



Educating a workforce for the aquaculture industry: Matching skill needs of the aquaculture industry with US Career and Technical Education (CTE)

NCRAC Funding 2017-2019

Education,
Career, and
Workforce
Development

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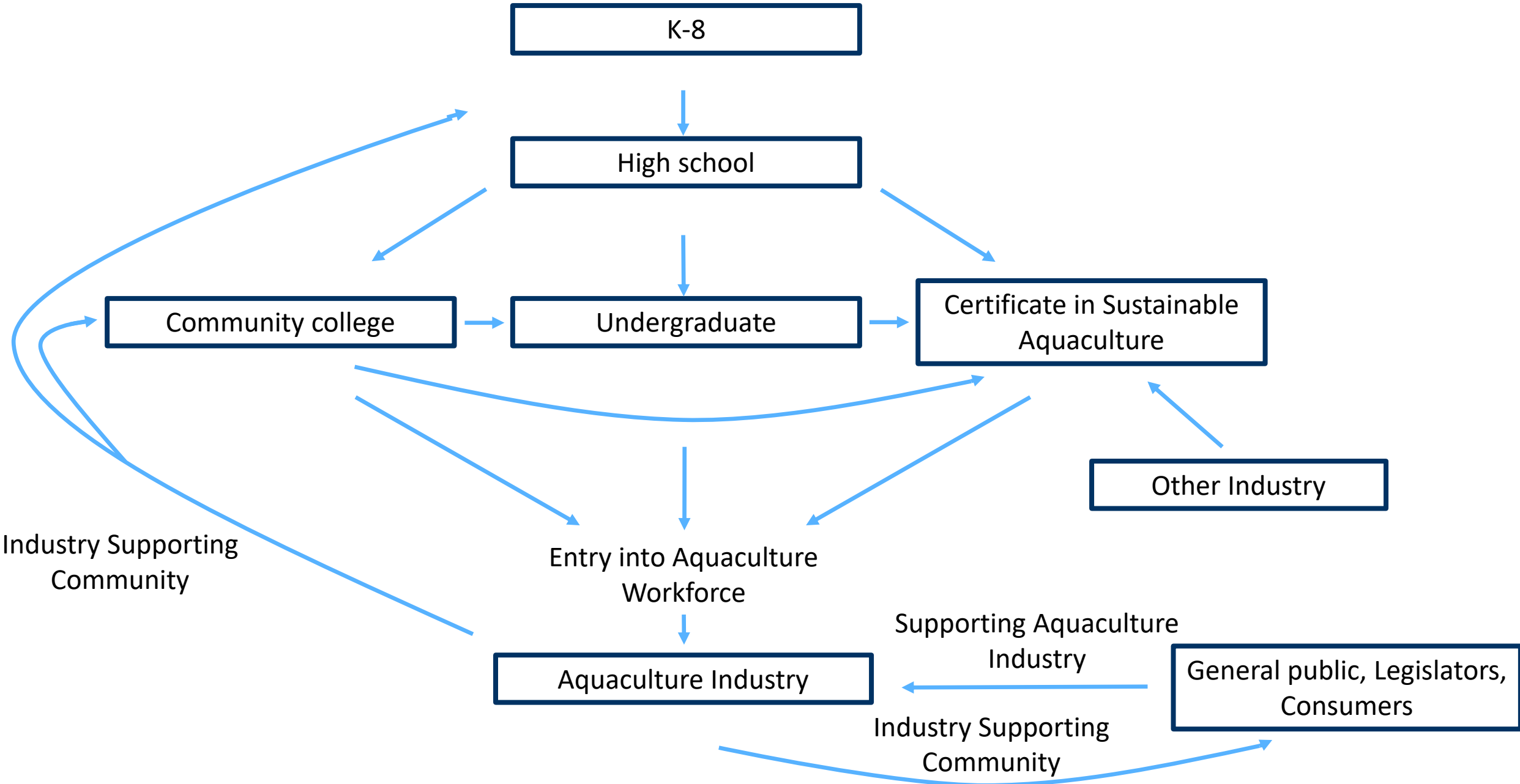
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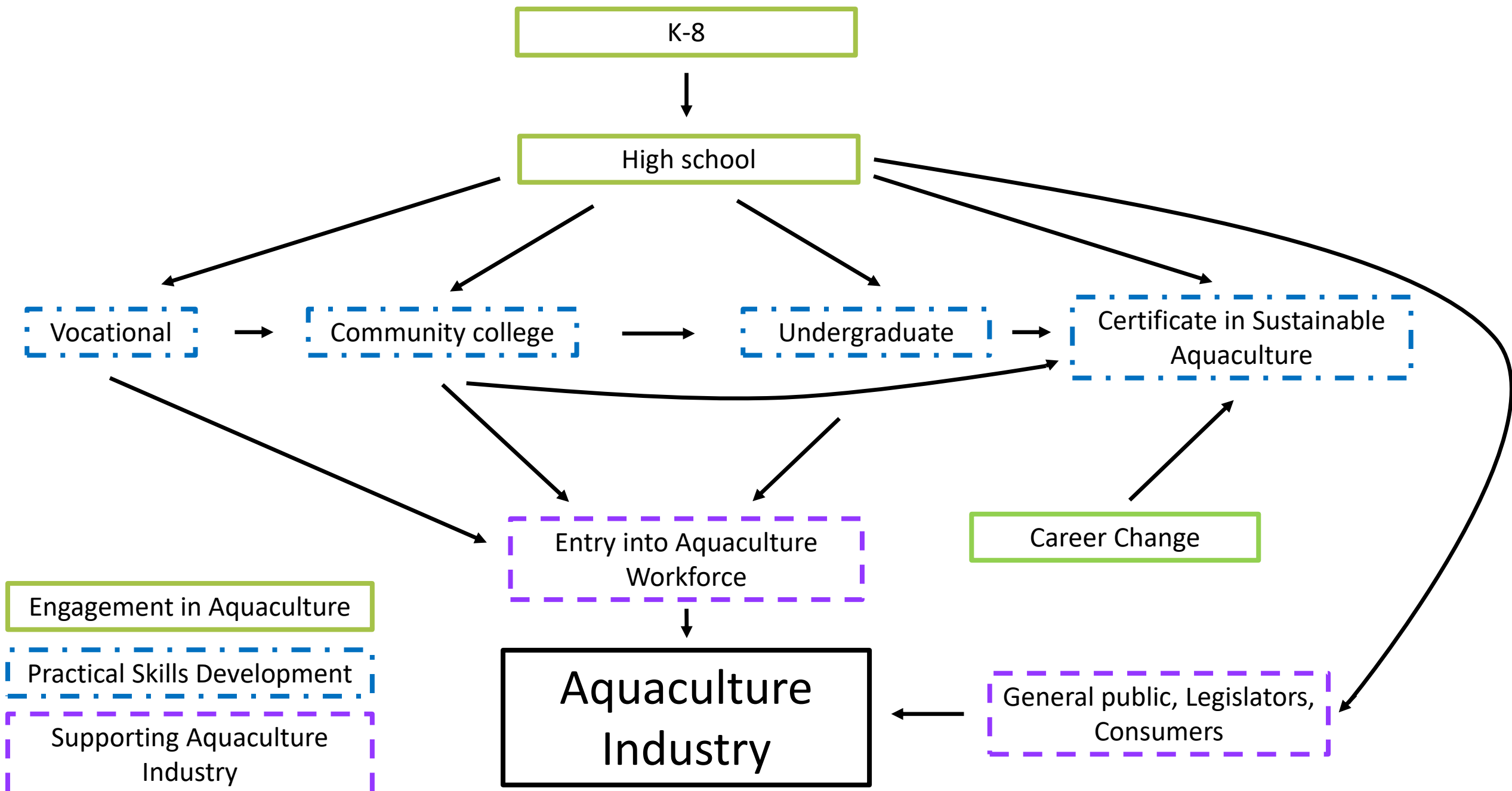


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- What is the entry point of each program in a K-Grad continuum?
 - Who are the audiences/stakeholders at each entry point?
 - Are specific curriculum or resource guides available?
 - In what way does a program work "on the ground" with stakeholders?
 - What program outcomes and impacts have been documented?

DRAFT Education and Workforce Development Road Map



Draft 2 Education and Workforce Development Road Map



K-8

High school

Community college / Vocational

- (IE) UM ARC tours - limited
- (FE) 4-H / EPSCoR:
Aquaculture tool kits (Formal in class activities)
- (IE, FE,PS) UM ARI support to 4-H programming
- (FE, PS, AS) SG Aquaculture meal (shellfish / seaweed focus)

- (IE, AS, PS) Hands-on activities at UM-ARC
- (IE, FE,PS) ARI supporting RAS in 4-H programming
- (IE, HO) 4-H /CCAR: Summer internship at CCAR

UM ARI – Dissemination of Aquaculture Curriculum and RAS teaching system designs

Undergraduate

Adult Learners

General public, Legislators, Consumers

(PS, AS, FE) UM ARI Certificate in Sustainable Aquaculture

(PS, AS, FE) ARI Certificate in Sustainable Aquaculture

(IE) UM ARI ARC tours

(PS, FE) SG Aquaculture in Shared waters (shellfish focus)

(IE) UM ARI and SG speaking to legislature

(PS, FE) Aquaculture Business Development (focus shellfish/sea vegetables)

AS = Academic skills
 PS = Practical skills
 IE = Informal education
 FE = Formal education

Our Panelists

Sarah Cook (Sales Manager, Skretting)

Michael Thompson (Senior Project Coordinator,
Whole Oceans)

Alejandro Rojas (COO, AquaBounty Technologies)

Greg Fischer (Assistant Director/Research Program
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Identifying skills for an entry level
Atlantic Salmon RAS Technician