

TRIP REPORT

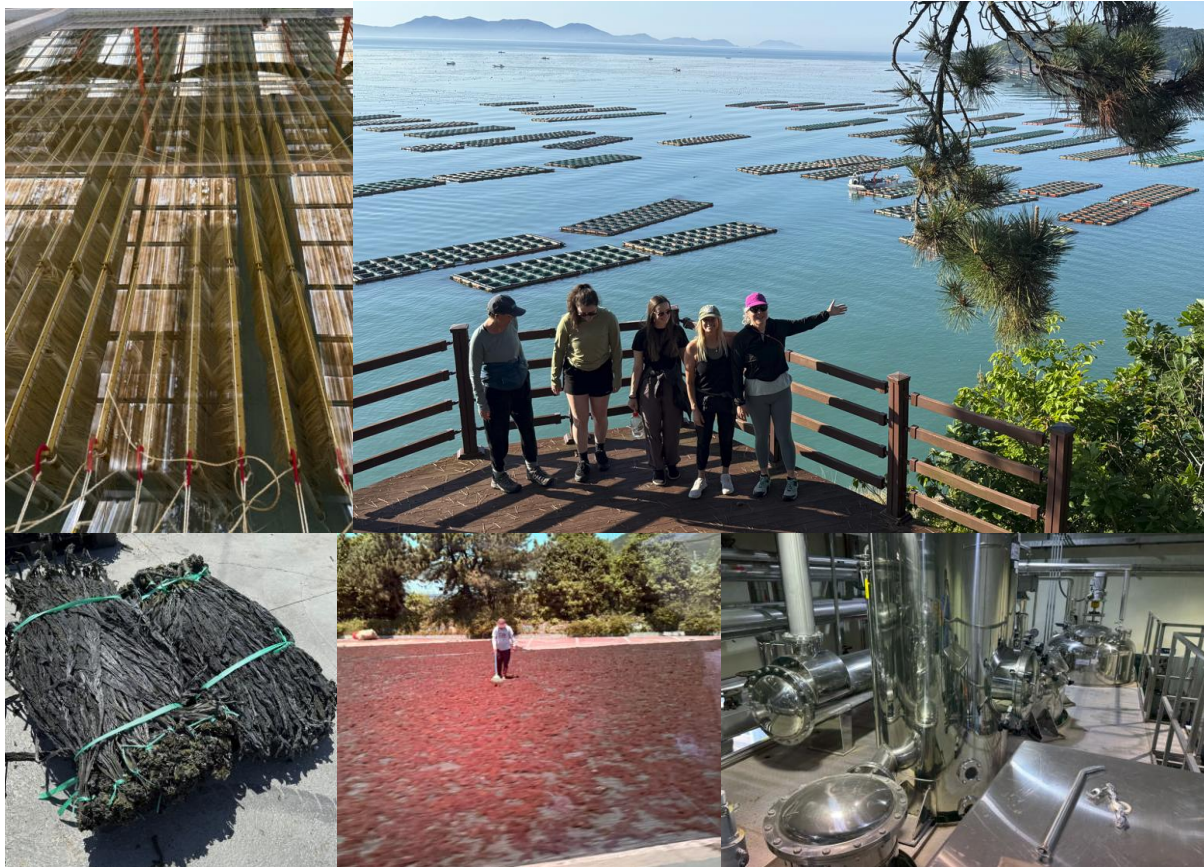
South Korea Seaweed Industry Learning Trip

May 10–15, 2026

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Prepared for: Southeast Conference / Alaska Mariculture Cluster

Locations visited: Seoul, Mokpo, Wando; South Korea



EXECUTIVE SUMMARY

From May 10–15, 2026, I participated in the South Korea Seaweed Industry Learning Trip, an immersive study tour organized by WWF-US in partnership with Professor Jang K. Kim of Incheon National University. The trip brought together 20 participants from across the global seaweed investment, research, and industry community to observe firsthand the depth, scale, and structure of South Korea's mature seaweed sector.

For Southeast Conference and the Alaska Mariculture Cluster (AMC), the trip offered a rare opportunity to benchmark Alaska's emerging kelp and shellfish industries against a world-leading model. Korea produces seaweed at a scale (\$1.5 billion in sales, \$260 million of which is from kelp) and quality that is difficult to fully appreciate from afar — and seeing it in person was both humbling and motivating.

The most significant takeaways for our work center on three themes: (1) the central and enabling role of government at every level of the value chain; (2) the viability of relatively low-technology, low-cost production at scale; and (3) interactions with other participants built connections useful in succession planning and partnership development.

TRIP ITINERARY

Sunday May 10

- Arrival in Seoul airport; train to Seoul Station
- Overnight: Four Points by Sheraton Josun, Seoul Station

Monday May 11

- Group briefing and introductions near Seoul Station
- Nonstop KTX train Seoul → Mokpo
- Visit: Seaweed Research Institute, National Institute of Fisheries Science
- Visit: Pyropia nursery (outdoor seeding method)
- Bus transfer to Wando; dinner and check-in

Tuesday May 12

- Meeting with the Mayor of Wando
- Visit: Wando Marine Bio Research Center, Jeonnam Bioindustry Foundation
- Visit: Pyropia kelp nursery (indoor seeding method)
- Boat tour: Saccharina (kelp) and abalone farms
- Visit: Daehan Muslan (Saccharina sales/processing)
- Dinner in Wando

Wednesday May 13

- Visit: Abalone processing facility, <https://www.wakoreaglobal.com/>
- Visit: Institute of Fisheries Seed Research of Jeonnam Province
- Q&A session: cooperative leaders, government representatives, media
- Dinner at local restaurant

Thursday May 14

- Visit: Wando Marine Healing Center (lunch onsite)
- Bus to Mokpo: visit Daesang Corporation Pyropia processing facility
- Return to Wando for dinner

Friday May 15

- Group trip wrap-up and reflection session
- Departure: Bus to Mokpo, train to Seoul/Incheon

KEY OBSERVATIONS & LESSONS LEARNED

1. Government Integration is the Cornerstone of Korea's Success

Perhaps the most striking observation across all site visits was the degree to which government — at national, provincial, and municipal levels — is woven into the fabric of the industry. From strain selection/breeding programs to co-financing of physical assets, insurance programs, and even processing business development, government functions as a true partner to industry rather than a regulator standing apart.

The abalone processing facility (largest in the country) we visited in Wando — funded and owned by the Wando County when a gap arose as abalone farming took off — was a vivid recent illustration of the effective public investments that underpin the sector's current competitiveness. The Mayor of Wando previously ran a seaweed research institute and has clear vision for further development of the region's mariculture industry through increasing attractions for the visitor industry, extending farming to

offshore regions, and developing blue carbon credits. The government-wide focus on aquaculture is driven by food security (large population in a small area) concerns primarily, as well as economic development goals. Aquaculture is clearly a top priority for marine uses, aided in part by (based on my observations) a minimal to non-existent recreational boating/fishing sector as well as a commercial fishing industry operating offshore and not competing with near shore development. Up to 90% of suitable waters near Wando were developed into farms, with transit lanes for other vessels to get in and out of the ports.

2. Low Technology — Not High Tech — Built This Industry

The industry operates at enormous scale using relatively traditional methods, relying heavily on accumulated generational knowledge on cost-effective methods and locations. Nurseries used simple, large-scale methods with no significant contamination issues despite no/minimal seawater filtration. Harvesting was largely manual based on 2-3 people operating roughly 30-foot vessels equipped with a small crane/grabber with no fish holds or cooling systems. Most kelp is fed to abalone with kelp and abalone farms are co-located and kelp dumped straight into simple abalone pens. Kelp for human food was harvested very early on sunny days and dried on the ground (we did not observe this directly).

The lesson for Alaska is nuanced: we should not assume that technology alone will unlock our industry. Cost-structure must also be considered, including efforts to find and exploit the most suitable locations. Familiarity and skill may matter as much or more in the long term than experiments with high-tech solutions. At the same time, Western countries and remote places like Alaska face unique challenges with workforce, different marine conditions, etc. that may require technological solutions in specific areas. The key is to keep testing ways to fundamentally reduce cost structure.

The only high-tech parts of the Korean seaweed industry were in strain selection/breeding, automated seeding machines, and some secondary processing methods (especially for gim/nori).

3. Quality, Scale, and the Integrated Value Chain

The quality of Korean kelp (*Saccharina*, *Undaria*), *Pyropia* (gim/nori), and abalone was remarkable — in taste, size, and consistency. No biofouling of any kind was seen on 6-month-old, 10+-foot long *saccharina* kelp observed on the farm, for instance. The scale of production has not come at the expense of quality. It surely helps that seaweed is highly regarded in Korea, with the highest quality kelp, for instance, directed to mothers eating it after childbirth.

As shown in the photo, farms are regularly producing 60 kg of kelp per meter (40 pounds/foot) of cultivation line, which would fundamentally change the unit economics of kelp farming if replicable in Alaska. Understanding the conditions that enable this yield — strains, species, location, and techniques — is worth further investigation.

The co-operative structures supporting Korean producers also impressed participants. There are a dozen or more coops each with 30-100 farmer members and the coop approach is deeply embedded in the Korean culture. The coops keep the ownership of the industry spread widely to the benefit of the region's communities and economies.



4. Climate Change is the Region's Defining Challenge

Climate change was raised by many stakeholders we spoke with — government officials, researchers, nursery managers, farmers, and processors. Rising seawater temperatures are already destabilizing production in ways that threaten the long-term viability of the industry in its current form.

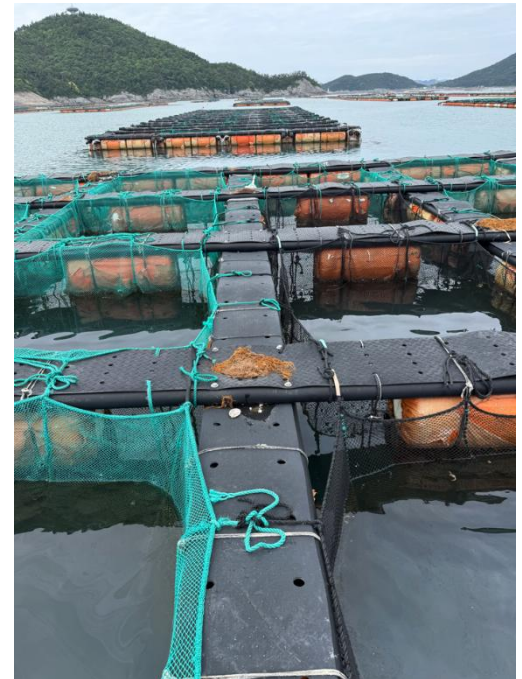
The response includes temperature-tolerant strain development, building on their decades of experience developing both government and private sector kelp and seaweed breeding.

Alaska is primarily interested in sporeless kelp and Korean in climate resistant strains – but both topics are kelp breeding innovations and there is potential for fruitful collaboration. An AMC-funded project with Kelp Ark already includes a collaboration with South Korean researchers and we will explore further ways to collaborate.

5. Relationship, Trust, and the Value of This Trip

The access afforded by this trip — to research facilities, government officials, co-op leaders, and processing companies — was only possible because of WWF-US and Professor Jang K. Kim and his team at Incheon National University. The quality of information sharing, including frank discussion of challenges and constraints, reflected years of relationship-building in Korea.

The participant group itself was exceptional — a mix of active seaweed investors and researchers from across the global seaweed community, including Europe, New Zealand, Faroe Islands, Maine, New England, California, and Asia. The conversations among participants were as valuable as the site visits, and I treasure the relationships formed during the trip.



NEXT STEPS

- Share this trip report with AMC partners, stakeholders, and the Southeast Conference board as appropriate.
- Continue to support collaboration with South Korea researchers with the collaborations led by existing partnerships at Kelp Ark and WWF.
- Explore collaboration interest expressed by Daesang Corporation's technology team – WWF following up here.
- Incorporate key observations from this trip into AMC's internal strategic planning documents and grant reporting as relevant.
- Consider whether a similar learning trip to another major mariculture-producing country (e.g., Japan, New Zealand) would be valuable for AMC and the broader cluster.

ACKNOWLEDGEMENTS

This trip was made possible through the exceptional planning and facilitation of the WWF-US team — particularly Bailey Moritz and Paul Dobbins — and the extraordinary hospitality and expertise of Professor Jang K. Kim and his team at Incheon National University, including Sei Choi and Dr. Jae Woo Jung. The depth of access and openness of the Korean business and gov people reflects the trust and relationships they have built over many years. The trip was a once-in-a-lifetime professional experience, and I am deeply grateful for the opportunity to participate on behalf of Southeast Conference.

Dan Lesh, Deputy Director, Southeast Conference, Alaska Mariculture Cluster, June 2026