Potential for introduction of the invasive lionfish, *Pterois volitans*, in the Tropical Eastern Pacific across the Isthmus of Panama

Potencial para la introducción del pez león invasor, *Pterois volitans*, en el Pacifico Oriental a través del Istmo de Panamá

Potentiel pour l'introduction du poisson lion envahissantes, *Pterois volitans*, dans le Pacifique tropical oriental à travers l'isthme de Panama

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Lionfish (*Pterois volitans/miles*) have established broadly across the Western Atlantic, and may generate significant ecological and socio-economic impacts in the invaded region. Their impacts and rapid spread across the region have led to concerns of a secondary introduction in the Tropical Eastern Pacific across the Central American isthmus. In this presentation we discuss the potential for spread of lionfish from the Caribbean to the Eastern Pacific across the isthmus of Panama, focusing on the Panama Canal as a route of introduction. Lionfish have established along the Caribbean coast of Panama, and are found in shallow areas near the Caribbean entrance to the Canal, however, they have not been reported within the Canal or along Panama's Pacific coast. Their spread through the waterway depends on their ability to overcome a number of barriers, including three sets of locks and two freshwater lakes. Although lionfish can tolerate low salinity and have invaded estuaries, their inability to survive in freshwater may prevent the spread of individuals through the Panama Canal. Lionfish eggs and larvae could also be transported across the Canal in the ballast water of transiting vessels, however, it is unclear whether ballast water is a vector for the spread of this species. The Regional Strategy for the Control of Invasive Lionfish in the Wider Caribbean calls for lionfish monitoring programs across the invaded region. Given the impacts that lionfish could generate in the Eastern Pacific, however, additional monitoring programs should also be implemented in areas outside the invaded region that are at risk of secondary introductions.

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